NATIONAL PETROLEUM NEWS

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Gasoline Consumption Gains 16 Per Cent; Cars Registered 11.3 Per Cent

By Roger B. Stafford
N. P. N. Staff Writer

CONSUMPTION of gasoline in the United States is increasing at a faster rate than the number of automobiles in use. This fact is shown by comparison of the increase in the number of automobiles registered in the year between July 1, 1925, and July 1, 1926, with gasoline tax or inspection figures. In this discussion, registration figures are those of Automotive Industries and the tax and inspection figures those gathered by American Petroleum Institute.

On July 1, 1926, registration of passenger cars, trucks, busses and all motor vehicles except motor cycles and farm type tractors totaled 19,579,768, of which 17,172,567 are classed as passenger cars and 2,407,201 as trucks. This was an increase of 11.3 per cent over registrations on July 1, 1925.

In 30 states consumption of gasoline in June, as indicated by the tax or inspection figures, was 15.9 per cent larger than in June 1925. In the same 30 states consumption in the first six months of 1926 was 15.7 per cent larger than in the corresponding time of 1925.

In six other states including Ohio and Michigan, two of the largest consuming states in the Union, but which did not have tax on gasoline in all of the first six months of last year, consumption in June, 1926, was 10.8 per cent larger than in June, 1925.

Gasoline consumption in 1925 averaged 478 gallons per car in the 30 states listed in Table No. 1 which tax figures are given for the first six months of 1925. The 478-gallon average included gasoline which was exempted from taxation and evidently used for other than motor fuel.

This year the average consumption in the same 30 states is at the rate of 534 gallons per car per year. This is an increase of 56 gallons in the per car average in 30 states, or 11.7 per cent.

Gross tax figures were used in computing the 1926 average because net figures are not yet available. It also is assumed that consumption in the first six months was only 45 per cent of what the year's consumption will be, a proportion that has been maintained for several years.

There are several reasons why per car consumption is creeping upward. Perhaps the most important is the increased use of gasoline by commercial vehicles: trucks and busses. Another in the rapid expansion of the good roads system of the various states. A third reason is the enclosed car which has permitted the more extensive use of automobiles in the colder parts of this country, and in stormy weather.

Florida is the leader both in the number of automobiles registered and in the gain in gasoline demand. The percentage of increase in the number of cars from July to July as 59.1; its six months' gasoline consumption was 73.4 per cent larger than in the first half of 1925, and the June consumption was 56.7 per cent larger than June, 1925.

Every state in the Union showed an increase in automobile registrations, although some of the gains were small. Oklahoma registrations increased only 1.2 per cent and the increases in Maine and West Virginia were only 1.5 and 1.6 per cent, respectively.

Maine evidently experienced one of the traditional New England winters, because its gasoline consumption for six months was 5.6 per cent less than consumption in the first half of 1925. In other New England states the gain in consumption this year was below the average for the thirty states.

Consumption in Wyoming and North Carolina was less in the first half of this year than in the first half of 1925. But in June gasoline demand was less in Colorado, Connecticut, Delaware, Nebraska and South Dakota than in June, 1925.

Georgia and Alabama made good sized gains in gallonage this year—above the average for the country, but the Carolinas were under the average. Idaho and Utah also showed large gains in gallonage.

Check With Refinery Figures

WHILE the A.P.I. figures cover only a little more than one third of the total gallonage of the country, that the thirty states present a representative portion is shown by the little difference between the percentage of increase shown in them and the percentage of increase in gasoline shipments from refineries as reported for six months of this year by the Bureau of Mines. The tax and inspection figures show a 15.7 per cent increase and the Bureau of Mines an increase of 14.9 per cent. The A.P.I. figures are gross figures in some cases and subject to revision, but are accurate enough to provide a working basis for determining the development of the gasoline market.

New York still ranks first in the number of passenger car and truck registrations with 1,505,597. California, Pennsylvania, Ohio and Illinois rank in order and all are in the million-car class. Michigan is close to the latter with 992,178 registrations. Nevada has the fewest cars, only 20,527 or less than one fourth the number registered in Rhode Island which is one eightieth as large in area.

California is the leader in the per car ratio to population with one car for

Table No. 1—Gasoline Tax and Inspection Totals and Automobile Registrations as of July 1, 1926

	Month of May, 1926 Gallons	Month of June, 1926 Gallons	June, 1925 Gallons	Percentage Change June from 1925	6 Months Ending With—June, 1926 Gallons	6 Months Ending With—June, 1925 Gallons	Percentage Change 1926 from 1925	Total Cars Reg. July 1, 1926	% of Gain Over July 1, 1925	Passenger Cars July 1, 1926	Trucks July 1, 1926
Alabama	11,102,000	10,682,000	8,915,000	+19.8	58,759,000	48,109,000	+22.1	213,185	10.3	186,948	26,237
Arkansas	9,463,000	8,409,000	5,520,000	+52.3	47,798,000	35,028,000	+36.4	177,235	18.1	152,537	24,698
Colorado	9,831,000	10,170,000	10,736,000	— 5.3	49,346,000	45,089,000	+ 9.4	235,000	13.1	216,550	18,450
Connecticut	12,541,000	13,242,000	14,062,000	— 6.2	57,623,000	55,522,000	+ 3.7	237,640	9.4	199,592	38,048
Delaware	2,594,000	1,776,000	1,957,000	— 9.2	8,909,000	8,071,000	+10.3	40,025	17.7	32,625	7,400
District of Columbia	4,688,000	4,573,000	4,140,000	+10.4	24,011,000	20,788,000	+15.5	116,539	38.0	101,866	14,673
Florida	24,279,000	22,234,000	14,182,000	+56.7	152,605,000	88,004,000	+73.4	408,967	59.1	344,232	64,735
Georgia	14,962,000	13,639,000	11,528,000	+18.3	79,487,000	66,428,000	+19.6	237,308	14.3	207,292	30,016
Idaho	3,457,000	4,015,000	3,151,000	+27.4	17,532,000	12,277,000	+42.8	85,637	24.8	78,640	6,997
Indiana	23,819,000	28,616,000	25,496,000	+12.2	129,379,000	119,855,000	+ 7.9	690,608	7.8	598,338	92,270
Kansas	20,471,000	23,819,000	21,013,000	+13.3	108,297,000	100,325,000	+ 8.2	433,686	6.6	391,061	42,625
Kentucky	6,535,000	10,416,000	9,139,000	+13.9	44,439,000	43,014,000	+ 3.3	252,000	10.9	225,000	27,000
Louisiana	11,372,000	11,214,000	9,739,000	+15.1	62,664,000	54,704,000	+14.5	216,000	24.3	183,000	33,000
Maine	5,745,000	7,414,000	6,807,000	+ 8.8	19,144,000	20,280,000	— 5.6	133,025	1.5	111,875	21,150
Maryland	10,370,000	10,757,000	9,754,000	+10.2	51,446,000	43,573,000	+18.1	224,081	5.2	213,632	10,449
Minnesota	26,513,000	25,943,000	23,912,000	+ 8.4	116,922,000	103,830,000	+12.6	572,149	10.4	509,956	62,193
Missouri	21,132,000	21,042,000	13,908,000	+51.3	127,951,000	104,193,000	+22.8	583,450	9.0	525,333	58,117
Nevada	952,000	1,072,000	932,000	+15.0	4,635,000	4,040,000	+14.7	20,527	15.6	16,480	4,047
New Hampshire	3,686,000	4,295,000	3,943,000	+ 8.9	13,480,000	13,102,000	+ 2.7	79,400	8.6	70,000	9,400
New Mexico	2,217,000	2,071,000	1,962,000	+ 5.5	10,726,000	9,616,000	+11.5	46,571	14.9	44,894	1,677
North Carolina	15,188,000	17,951,000	14,666,000	+22.4	91,697,000	92,540,000	— 0.9	391,673	17.5	355,794	35,879
North Dakota	7,573,000	6,585,000	4,521,000	+45.8	34,413,000	25,185,000	+36.6	144,324	14.5	133,164	11,160
Oregon	9,716,000	11,108,000	9,610,000	+15.4	50,448,000	42,896,000	+17.6	195,641	9.2	181,211	14,430
South Carolina	7,442,000	7,396,000	6,854,000	+ 7.9	42,007,000	38,340,000	+ 9.5	152,350	6.5	137,793	14,557
South Dakota	7,643,000	6,732,000	7,334,000	— 8.2	35,275,000	30,019,000	+17.5	160,000	5.7	149,000	11,000
Texas	43,014,000	45,011,000	40,084,000	+12.2	231,985,000	217,701,000	+ 6.5	903,733	5.9	820,476	83,257
Utah	3,741,000	3,598,000	3,519,000	+ 0.2	16,937,000	13,998,000	+20.9	78,191	9.8	67,238	10,953
Virginia	12,515,000	12,965,000	11,491,000	+12.8	64,356,000	55,625,000	+15.7	275,100	5.7	239,500	35,600
Washington	16,087,000	17,560,000	15,257,000	+15.1	84,324,000	72,292,000	+16.6	324,660	10.0	278,936	45,724
Wyoming	2,235,000	2,203,000	2,185,000	+ 4.5	8,703,000	9,239,000	— 5.8	44,246	4.1	39,487	4,759
Total	350,883,000	366,508,000	316,317,000	+15.9	1,845,298,000	1,593,683,000	+15.7	7,672,951	12.6	6,812,450	860,501
Daily average	11,319,000	12,217,000	10,544,000	.....	10,195,000	8,805,000	.....	.....	....	.....	.....
Increase over previous year: Amount	.....	50,191,000	.....	.....	251,615,000	.....	.....	859,223	....	.....	.....
Iowa	23,426,000	23,761,000	21,548,000	+10.2	113,137,000	.....	.....	644,906	5.6	599,221	45,685
Michigan	50,028,000	51,190,000	46,217,000	+10.7	233,592,000	.....	.....	992,178	24.2	862,916	129,262
Nebraska	13,280,000	13,832,000	14,742,000	— 9.2	70,305,000	.....	.....	318,772	13.8	294,801	23,971
Ohio	63,050,000	64,415,000	56,246,000	+14.5	301,418,000	.....	.....	1,315,000	6.7	1,170,000	145,000
Rhode Island	4,915,000	4,834,000	4,522,000	+ 6.9	22,467,000	.....	.....	93,473	4.1	76,602	16,871
Wisconsin	25,240,000	28,704,000	25,227,000	+13.7	111,224,000	.....	.....	590,797	10.5	520,134	70,663
Total	179,939,000	186,736,000	168,502,000	+10.8	852,143,000	.....	.....	*11,628,077	12.2	*10,336,124	*1,291,953

*Includes total for the 30 states above.

every three persons in the state. Florida was second with a car for every 3.2 persons. Iowa, which was leader for several years, was third with a car for every 3.8 persons. This ratio was also held by Nevada where the human population is as sparse as the automobile population.

The southern states had proportionately the fewest cars. This is because of the large negro population. Georgia was at the bottom of the list in the number of persons per car, with 13.2 for each automobile registered. New York ranked fairly low with a car for only every 7.5 persons.

An interesting feature of registration figures would be the number of buses in use. Definite data on buses can be obtained in only 10 states. In other states buses are registered as trucks or passenger cars. Registrations in these 10 states were as follows:

District of Columbia	135
Georgia	100
Indiana	822
Maryland	375
Minnesota	359
Rhode Island	312
South Carolina	121
Virginia	81
Washington	555
Wisconsin	486
Total	3,346

Table No. 1 contains the A.P.I. gasoline consumption figures with percentages of changes, and the Automotive Industries registrations on July 1, 1926, with changes over July 1, 1925. Changes over the latter date are taken, according to Automotive Industries, because Dec. 31 figures for some states include cars that have been scrapped during the year. Instead of transferring a license to a new car as some states do, other states send the license to the graveyard with the scrapped car. Obviously such practice increases the registration totals of states having such a system.

Table No. 2 contains automobile registrations in states in which gasoline consumption statistics are not available, together with the total figures for July 1, 1926.

Table No. 2—Automobile Registrations as of July 1, 1926

(This table supplements Table No. 1)

	Total Cars Registered July 1, 1926	Percentage of Gain over July 1, 1925	Passenger Cars July 1, 1926	Trucks July 1, 1926
Arizona	75,000	25.1	65,000	10,000
California	1,459,570	13.7	1,262,841	196,729
Illinois	1,218,036	8.4	1,062,584	155,452
Massachusetts	615,207	11.6	520,545	94,662
Mississippi	185,000	24.4	166,500	18,500
Montana	92,160	9.8	79,608	12,552
New Jersey	575,028	13.6	466,883	108,145
New York	1,505,597	13.0	1,246,010	259,587
Oklahoma	430,000	1.2	400,000	30,000
Pennsylvania	1,324,762	9.1	1,142,314	182,448
Tennessee	223,797	2.5	203,492	20,305
Vermont	63,867	5.7	58,136	5,731
West Virginia	183,667	1.6	162,530	21,137
Total Table No. 1	11,628,027	12.2	10,336,124	1,291,953
Total U. S.	19,579,768	11.3	17,172,567	2,407,201

Missouri Paint Concern Buys Plant in Texas

The Cook Paint and Varnish Co. of Kansas City, Mo., have contracted for the purchase of the property formerly owned by the American Cotton Oil Co. in Houston, Texas. This consists of a five-acre tract of land served by two railways and improved by a three-story and basement brick building 100 ft. x 100 ft. and oil tank storage totaling 350,000 gallons.

The new property will be immediately remodeled and equipped to manufacture the complete line of paints, enamels and varnishes. The installation will include modern paint manufacturing machinery and varnish stacks.

HOUSTON, Aug. 19.—D. T. Evans is now with the Texas Pacific Coal & Oil Co., at Fort Worth, in charge of the lubricating oil sales department. Mr. Evans' work will be confined to tank car sales of lubricating oils from the new Fort Worth refinery, which is now in full operation.

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First Trunk Line for Panhandle Is Announced by Prairie

By Telegraph from Staff Writer

INDEPENDENCE, KANS., Aug. 24

ANNOUNCEMENT was made today by officials of the Prairie Pipe Line Co. that construction will be started at once of an 8-inch welded pipe line from the Amarillo district. The line will be about 207 miles long and will start from the tank farm now being constructed by the Prairie Oil & Gas Co. near Kingsmill, Gray county, to connection with the Prairie main line at the Ringling pump station, Carter county, Okla.

Pipe has been ordered and final survey or line location is now being made. It is estimated that five months will be required for completion of the line so that it will not be running oil before next February under the best conditions. There will be seven pump stations on the line including the one at Kingsmill tank farm.

The line will be buried in a ditch four feet deep as a precaution against lowering the temperature of Panhandle district crude which will be transported through it but other than this no special plans for heating or otherwise handling the crude have been made.

Pending completion of this line the Prairie Oil & Gas Co. is constructing about 24 tanks at the Kingsmill farm and has five completed on its Weatherby property in Hutchinson county. An 8-inch welded line 25 miles long is being laid between these tank farms. It is nearing completion. Prairie is making preparations principally to handle its own production from the field, it was said this morning, and will not make a serious effort to run much "outside" oil until the trunk line has been completed. Such oil as it buys from now until completion of the line will be taken at prices existent in the field but upon completion of the line it is probable that the company will post its regular price for that field.

Geologists Have Part In Denver Meeting

CLEVELAND, Aug. 21.—Members of the American Association of Petroleum Geologists will discuss western Kansas, Oklahoma and Texas, Sept. 21, when their regional meeting will open in Denver. This meeting is part of the joint convention to be held by the western division of the American Mining Congress, American Institute of Mining and Metallurgical Engineers, American Association of Petroleum Geologists and American Silver Producers' Association. The convention opens on Sept. 20 and ends on the 24th.

Alex W. McCoy, president of the A. A. P. G., will preside over the geologists' meeting the afternoon of the 21st. A banquet will be held that night. The next morning will be spent in a trip to the Fort Collins oil field and the afternoon of the 23rd will be devoted to a discussion of geology of the Rocky Mountain region.

Several joint sessions will be held during which prominent engineers and geologists and government officials will speak. Dr. Hubert Work, secretary of the interior, will speak in the afternoon of Sept. 20 and Secretary Hoover may be present to be the principal speaker at the dinner that night.

The A. I. M. E. sessions will be held morning and afternoon of Sept. 22 with John W. Finch presiding. H. Foster Bain, secretary of the A. I. M. E., Scott Turner, director of the Bureau of Mines, M. J. Gavin, refining engineer of the Bureau and others are on the program for the morning session and in the afternoon Dr. George Otis Smith, director of the U. S. Geological Survey, W. C. Mendenhall, G. F. Loughlin and C. H. Birdseye, all of the Survey, will speak.

Coming Meetings

Minnesota Petroleum Association, Kahler Hotel, Rochester, Minn. District Meeting, Sept. 3.

American Chemical Society, Bellevue-Stratford hotel, Philadelphia, Sept. 6-11.

Virginia Independent Oil Men's Association, Jefferson Hotel, Richmond, Va., Sept. 15-16.

National Petroleum Association, Hotel Traymore, Atlantic City, Sept. 15, 16 and 17.

Ohio Gas & Oil Men's Association, annual meeting, Columbus, O., Oct. 5, 6.

National Petroleum Marketers Association, Atlantic City, Oct. 26, 27, 28.

American Oil Men's Association, Congress Hotel, Chicago, Nov. 16, 17 and 18.

American Petroleum Institute, annual meeting, Mayo Hotel, Tulsa, Dec. 7, 8, 9.

Michigan Independent Oil Men's Association, Detroit, Feb. 10 and 11.

Program Outlined For A. I. M. E. Meeting

CLEVELAND, O., Aug. 21.—Within the past few days tentative outline of the program of the meeting to be held Oct. 11-14 by the Petroleum Division, American Institute of Mining and Metallurgical Engineers, has been drafted. The meeting will be held in Tulsa. This will be in cooperation with the Mid-Continent Oil & Gas Association and the Mid-Continent section of the A.I.M.E.

F. Julius Fohs, chairman of the division says:

"This program has been in contemplation for some time and while, to some, it may seem inappropriate that a program discussing methods of increasing production should be given at a time when there is an apparent tendency toward over-production, it has been prepared with a view to discussing a number of subjects very vital to the oil industry, for both its immediate and future benefit. It is my belief that stress should be put upon methods of increasing production and production temporarily held in leash—rather than cutting down on the starting of new wells—as being the better economic process."

The program outline is as follows:

1. Increasing Recovery in new pools.
   - (1) Solubility of Gases in Crude Oils and Resultant Effects Upon Viscosity and Surface Tension.
   - (2) Modern Methods of Equipping and Handling Flowing Wells in Mid-Continent Fields.
   - (3) Gas Lift Flowing of Wells in the Mid-Continent District.
   - (4) Methods of Handling Pumping Wells to Conserve Gas.,
   - (5) A: Advantages of Unit Operation in Oil Fields.
     B: Economic Effect of Increased Recovery Methods.
2. Salvaging Oil in Developed Pools.
   - (1) Increasing Recovery in Mid-Continent Fields and Its Economic Effects.
   - (2) Application of Marietta Process to Delaware Pool.
   - (3) Comparison of Pressure and Vacuum Methods of Production.
   - (4) Economic Effects.
3. Improved drilling and production.
   - (1) North-Central and East-Central Texas: Methods Used in the Powell Field in Determining Water Shut-Off Levels and Methods of Effecting Shut-Off.
   - (2) Gulf Coast Fields.
   - (3) Oklahoma and Kansas.
   - (4) Panhandle District: Drilling Practice. Production Problems.
   - (5) Economic Effects.
4. Mid-Continent Oil & Gas Association Banquet: addresses by some of the heads of the industry.

A. I. M. & M. E.

5. Subscription luncheon to plan establishment of local clubs affiliated with division and discuss methods of electing division officers.
6. Trips to Oklahoma oil fields.

Repollo's Test in Boulder County May Open Important Field

By Special Correspondent

DENVER, Aug. 21.

THE discovery of a new oil field in Colorado appears to have been made by the Repollo Oil Co., the Rocky mountain subsidiary of the Sinclair Consolidated Oil Corporation, on a wildcat structure immediately south of the old Boulder field which attracted considerable attention 25 years ago but which now is producing only a minimum quantity of crude. While official information as to the extent of the strike is meager, well-informed oil men do not hesitate in saying that known results to date give exceedingly encouraging promise of the opening of the largest pool so far discovered in Colorado.

The discovery was made in Deines No. 1, located on the NE NW 33-1N-70, in Boulder county, 2 miles east of the town of Boulder, 25 miles northwest of Denver and 50 miles south of the Wellington dome in northern Colorado, on what has been named the Parallel dome. The well was started as a deep test to the sands in the Dakota expected at 4500 to 5000 feet and commenced spudding about May 1. The Hygiene sand in the Pierre shale, about one-third of the way up from the bottom of that column, was considered a possible producing horizon and was expected at 3200 to 3500 feet.

Oil Rises High In Hole

A FLOW of gas, probably amounting to 500,000 cubic feet, was found at 1808 feet. This gas was saved for fuel and drilling continued. A black sandy shale at 3400 feet commenced showing some oil. The fluid rose 1100 feet in the hole over night. The next day the 8¼-inch casing was run, a control head installed and drilling was resumed. At 3430 feet, the bit was still working in the shale and the oil had risen to 2400 feet. At 3450 feet, the oil was continuing to rise and stood 3000 feet in the hole. Drilling was suspended until the casing could be lowered to the bottom.

It was several days after the strike had been made before it became public. A man who was at the well between the time the 3400-foot horizon was reached and the giving out of the information that oil had been found, described the conditions as pointing to an important development. The odor of petroleum could be detected for a quarter of a mile from the well. Operations were suspended and the water in the pit was bubbling from escaping gas. These signs were credited by the crew to an ineffectual shutoff of the gas at 1808 feet. The hole was bailed and the well credited with a capacity of 10 barrels a day from the 50 feet of shale. But when it is recalled that the oil had risen 3000 feet in an 8-inch hole in two days and was still rising, this estimate is conservative.

It was at this point that considerable mystery concerning the results began to develop. The hole was carried down to 3554 feet after making the shutoff at 3450 feet at which depth it still was making oil but whether new oil or seepage from above is not known outside of those in charge. In the meantime the casing was carried down immediately behind the drill and not until the hole was bottomed in blue shale at 3885 feet was it definitely stated that the oil had been shut off. If the oil continued coming in down to the blue shale, there was 485 feet of saturated horizon which is not half bad in Colorado where shale wells have made some wonderful records. Whether the Hygiene sand was the source of the oil is not positively known but it evidently came from horizon in which that sand lies near its base. In any event, whatever was encountered was cased off promptly and the well was not allowed to produce. It still is more than 1000 feet off the objective sand.

No Rush to Complete

THERE are several good reasons why the Sinclair people would not care to bring in a producing well at this time. One is that if the well should be allowed to produce, an energetic drilling campaign would have to be inaugurated at once to comply with lease requirements and this is not desired before the objective Dakota sands are tested. The Sinclair interests were after this structure more than two years ago but could not secure all the leases and were about to abandon the project when O. H. Shoup, president of the MacKinnie Oil & Drilling Co., and former president of the Midwest Refining Co., tendered his services. The result was that about 6000 acres have been leased on the structure and checkerboarded by the two companies which are sharing equally in the cost of the test.

The Deines well is located about 3 miles south of the old Boulder field. That field attracted attention in 1901 when McKenzie No. 1, in 21-1N-70, had a showing of oil at 2720 feet. An extensive drilling campaign over a period of 10 years followed. At one time there were as many as 120 derricks up and 82 wells drilling. The wells proved to be only small pumpers. Only one flowing well was completed and it didn't last long. Many of the wells were ruined by shooting and never made a barrel of oil after the shots had been fired. The largest production ever reached by the field was 85,000 barrels in 1910. After that the field went down and now is producing around 25 barrels a day from 4 wells drilled 25 years ago. This production all came from the shale.

Two Distinct Structures

The Boulder monocline is separated from the Parallel dome upon which the Sinclair test is located by a major fault called the Valmont dike. The formations rise toward this fault in the Boulder field. It is considered very probable that the oil in the Boulder pool, with the exception of that caught in sandy lenses, escaped at this fault. On the other hand, the formations on the Parallel dome south of the dike dip towards the fault. This indicates that the two structures are entirely independent and this is further borne out by the fact that the oil in the old Boulder field is of 42 gravity while the oil from the Sinclair well is 46 gravity. The lighter gravity of the oil in the Deines well also encourages the belief that it has migrated from the lower horizons and that when the Dakota is reached that it will be found heavily saturated.

Prof. R. D. George, state geologist for Colorado, is credited with having first noted the presence of the Parallel dome. However, Paul B. Whitney, formerly with the Continental Oil Co., is given full credit for having worked out the geology and established the closures. He worked out his own theories about the source of the Boulder oil and did extensive trenching in mapping the structure. The Sinclair people were anxious to drill it at the time but were held back by the inability to acquire sufficient acreage to justify an expensive deep test. Whitney went to Australia two years ago. When he returned, the matter again was taken up and he went with the Repollo company. The leases, or most of them, were secured in the manner already mentioned and a decision finally reached to test out the area.

Most all the big companies have believed that a large pool existed somewhere in the vicinity of the old Boulder field. After the Wall Creek sands were found productive in Salt Creek, several deep tests were drilled in the Boulder area to test that horizon but without results. Then, when oil in the Dakota was found at Wellington in 1923, tests were drilled to the Dakota but water was the result. These tests were all north of the Valmont dike. No water has been found south of the dike.

The Midwest Refining Co. drilled a test on 33-2N-70 in 1922 and found water at 2920 feet. The Rainbow Oil & Development Co. drilled to 4160 feet on 26-2N-70. Elk Basin Consolidated, predecessor of the Mutual, now the Continental Oil Co., drilled on 17-1N-70 to 4030 feet but had a dry hole. This well was south of the fault and did not encounter any water. A. A. Rollestone went to Longmont and drilled a hole to 7310 feet on 34-2N-70. The Ohio Oil Co. drilled to 5200 feet on 22-1N-69 but lost the hole. It was bottomed in what is believed to be the Hygiene and had all formations down to the Morrison at a good showing. The Ohio also tested 3485 feet on 28-2N-70 with nothing but water to show for the results.

Early Gasser Significant

IT is significant that practically all these tests were to the north and northeast of the Valmont dike and were failures. An important indication, the significance of which was overlooked,

was that the old Buffalo well, drilled on 29-1N-70, just a quarter of a mile from the Deines well, made enough gas for 15 years to supply the town of Boulder and was as strong as when drilled in when the hole caved four or five years ago. This well, also, was south of the fault.

The marketing problem will not be a difficult one for the Sinclair people if the Parallel dome comes up to expectation. Should it be a large producer, a connection with the Sinclair pipe line from Wyoming to the east is feasible. If production did not justify the construction of this branch, the Sinclair companies are extensive marketers of gasoline in this region and a refinery to meet its own requirements might be a desirable result. In any event, its close relationship with the Standard of Indiana on crude oil buying and pipe lines makes its marketing problem one easy to solve.

As matters stand at this time, The Deines well has proved the existence of a closed structure in the Parallel dome with oil sealed in it. The quality of the oil indicates that the structure is in no way related to the area to the north and that it probably has come from a lower sand. This sand is within reach of the drill and is productive at Fort Collins, Craig, in Moffat county in the northwestern New Mexico fields, in Wyoming and in Montana. The conditions all are favorable for a producing field. The closure of the structure is not definitely known but is believed to embrace twice the acreage within the Wellington dome, the largest pool in the state.

Report to Approve Unit Lease Development

WASHINGTON, Aug. 23

MOST favorable reports as to the character of the report the Federal Oil Conservation Board will make to President Coolidge, probably in September and not later than October, are being received by those in Washington who are following the work of the board.

Draft of the report, as prepared by George Otis Smith, director of the Geological Survey, and H. H. Hill, chief petroleum technologist of the Bureau of Mines, has been approved by Secretary of the Interior Work, the superior of Dr. Smith, and Secretary of Commerce Hoover, superior of Mr. Hill. The secretaries of war and of the navy, at the time this was written, were considering this tentative draft.

The report is three phase in character, production, refining and engineering. The last phase is under the charge of General Jadwin, chief of army engineers, and a member of the advisory sub-committee of the oil board.

How much the four departmental heads will add to the work of the technical men probably will not be disclosed until President Coolidge publishes the report. Just how he will handle the subject is not known.

The report, it is well understood, will be based on the mathematical demonstrable fact that, at the present rate of consumption, the known and proved oil-bearing areas in the United States will be insufficient to meet demand in a few years, unless deeper drilling, greater recovery and better utilization prolong their lives.

A further conclusion will be that there is waste in unrestrained drilling, in preventable losses and poor utilization; another that it is incumbent upon the nation, the states, the industry and upon users as well to prevent waste.

These might be said to be the fundamental premise upon which Secretary Work based his recommendation to President Coolidge that a board be appointed to study the subject and make a report thereon, to the end that the President might make representations on the subject to Congress, if so minded, with a view to bringing about a change in laws that might be preventing conservation in its true sense, that is the economical use of an admittedly wasting resource, the replacement of which by processes of nature is not generally claimed.

The report will show that the board recognizes the difference between waste caused by ignorance or wilfulness, which might be called criminal, and that which results from such a compelling, economic fact as price, as, for example, burning as fuel oil petroleum products which could be turned into gasoline or lubricating oils, for which there is no substitute in a natural resource, as there is with fuel oil.

Waste Largely Due To Laws

THE production phase of the report will give recognition to the fact that waste in production is not to be laid at the door of the industry, but to the laws of the land, as was stated in the special report, by Dr. Smith, as to activities on public lands leased for oil exploitation under the national leasing law of 1920. Director Smith obtained more publicity for that report than is usual with reports by government officials, because, it is believed, he put it into such form that it carried its own lesson. The publicity man for the Department of the Interior, as an introduction to the director's report said "practical conservation is winning out and industrial leaders are utilizing new methods in the development of the country's resources."

One of the understandings had from the first was that the report would not undertake to recommend "drastic" legislation, chiefly for the reason that it would be ridiculous unless confined to land owned by the government, because production of oil is not commerce between the states or with foreign nations. The federal government could not legislate for unit development, which it is understood will be advocated because it has no control over lands within states, except as proprietor.

An addition to the federal leasing law could require unit development of all geologic structures wholly situated on public lands but such legislation would not help where there was a diversity of ownership.

Will Describe Methods

UNIT development, under agreements among the owners, is expected to be set forth as one of the methods for bringing about practical conservation, but that runs counter to state anti-trust laws and would be no more than has been advocated many times, without having any visible effect upon state legislatures.

As a matter of information for the President it is expected the report will contain descriptions of all the many plans for the conservation of the supply of probable resources of well oil, and a review of all the allegations made as to these sources of supply, not only by the American Petroleum Institute's Committee of Eleven, but also all the criticisms passed upon it by those who thought the committee had gone too far, especially H. L. Doherty, who has not yet filed his answer to Mr. Hughes and who, some think, never will file it in time to be made a part of the record in this matter in the regular course.

No one has undertaken to make an estimate as to what the President will do with the report, other than possibly transmit it to Congress for its information, regardless of what, if any, recommendations he may make. He could make positive recommendations for amendments to the national leasing law, intended to conserve such oil as there may be on the public lands, both before and after leases are made. That, however, would be the extent of positive things he could do, because the leasing law is the only element of legislation that is outside the highly controversial field, invasion of which would result in litigation that would last far beyond the time for the exhaustion of well oil sources within the United States.

Change In Cardinal Petroleum Co.

C. J. Westlund, president of the Cardinal Petroleum Co., Muskegon, Mich., together with some of his associates, have purchased all the stock owned by T. B. Bennett and his associates, and a further expansion of their business is planned. In their new organization F. B. Emig, formerly of the Hawkeye Oil Co., Waterloo, Iowa, became secretary and treasurer as of April 1st, 1926. Mr. Emig was also formerly head of the tank car jobbing department of the National Petroleum Marketers Association.

It Looks Like a Move to Prevent Sale Of Motor Oils Except in Cans

By Warren C. Platt
Editor

IS the campaign against alleged "substitution" of motor oils for the purpose of bringing about the enactment of laws forbidding the sale of motor oil in bulk?

One cannot help but ponder over that question as he reads the last diatribe against the oil industry issued Aug. 19 by the American Fair Trade League, a self-appointed policing organization of New York City.

After damning 79 per cent of the oil industry as substitutors, the League, which is dedicated to fairness and honor and presumable truthfulness in business, proceeds to confound its name and, after mentioning that a car owner is reasonably safe in buying oil in sealed containers, says,

> "There has developed a practice on the part of the public which has encouraged illegal practice on the part of the oil vender. This consists in the purchase of oil from other than sealed containers—that is loose as by the pint or quart."

This may seem rather a thin clue on which to base a suspicion of a campaign against all bulk oil selling, but how otherwise would you explain this reference? What could be done about it—that would be of benefit to national brand distributors say—but abolishing bulk oil sales?

Another motive begins to show in this last scourging of the oil industry. After telling what a fine job of engineering the automobile manufacturers have done in their cars the Fair(?) Trade League's press agent story says:

> "After much research, both by the automobile and lubricating oil manufacturer, certain oils have been found to function best in maintaining a film between the surfaces. These conclusions are given to the automobile operator in the form of recommendations which, if carefully followed, will give the service promised by the manufacturer.
>
> "It is in this connection that a serious situation has arisen which will make worthless millions of dollars' worth of machinery through the fraudulent sale of lubricants which in a large per cent of cases are suitable for the unit for which they are purchased. The average automobile owner purchases his lubricants in accordance with manufacturer's recommendations, having faith in the accuracy of those recommendations. Accepting, therefore, the recommendations of the automobile and lubricating oil manufacturer, the operator, when in need of a lubricant, purchases or at least asks for a certain brand and grade of oil."

Then the statement proceeds with how the operator gets it in bulk so often.

From the foregoing one wonders if this is not a part of the old time drive to narrow motor car manufacturer's recommendations down to a few oils—and they are not so many today—and try and force the car owner to follow those recommendations. One of the gross injustices the oil industry has had to contend with has been these same motor oil recommendations by automobile makers and other machinery men. They have, in many cases, recommended only two or three national brands and their sales and repair crews have followed up these recommendations by blaming most every ill of the car or machine upon the fact that the motorist had used the "wrong" oil, when they found he had deviated from the maker's recommendations.

The oil industry, particularly the thousands of smaller oil companies who are supplying almost half of the oil and gasoline of the country at least, have had many a battle with the car makers on this. Some car makers have recognized the injustice of it and withdrawn all motor specifications, or recommendations, others have been quite circumspect in what they have said about oils.

All this has been defeat for the national brand motor oil owners. Undoubtedly they have lost gallonage by it. One cannot help wonder if by any chance any of their employes are so foolish as to be responsible for this Fair (?) Trade League's blasts?

The occasion for this last attack on the oil industry by the Fair(?) Trade League is the announcing of the "results" of an "investigation" alleged to have been conducted by it through a professor of chemical engineering of New York University. How many stations or sellers of oil were investigated the statement does not say, except that they were picked "at random from New York service stations during the past month." But no matter how few were "investigated" the Fair (?) Trade League in the headline for this statement, a story offered to the newspapers as news, brings a blanket indictment against the oil industry doing business in New York, as follows:

> "79% of oil stations
> Tested in New York City Guilty
> of Deceiving Automobile Owners."

The news story then quotes the professor as saying, "On the basis of the above chances of obtaining the oil requested are one in five."

There is no qualification as to type of dealer, whether oil company stations or what. All vendors of motor oil are included in the indictment.

The professor then does a spread eagle with his language as follows:

> "The tremendous expansion in the use of the automobile by the general public has emphasized a situation which bids fair to eclipse all previous records of public deception and at the same time to undo the painstaking efforts of the automobile manufacturer to produce a means of locomotion which will be safe, comfortable, economical" etc., etc.

There is no doubt of the blanket character of the indictment against all oil companies—except those dealing in national brands—for again in the statement this professor repeats:

> "The results indicate the extent of this practice is very wide and that the chances of the autoist obtaining the oil requested are about one in five."

The professor goes on to point out that in some of the cases where samples of oil were purchased the oil substituted

was of poor grade, which he calls a double fraud. Then he closes with the following:

"Granting, for the sake of conservatism, that the situation throughout the country is not quite as bad as that disclosed in New York City, assuming even that instead of 80% of substitution there is only 50%, and that half of these substitutes are reasonably satisfactory, we still have to face the fact that 25 per cent of the oils sold are absolutely unsuitable for use in the engine. It is estimated that 20,000,000 motor vehicles are operated in the United States. If 25 per cent, or 5,000,000, are being served with unsatisfactory oil it means that five million cars are going to an untimely death on account of improper lubrication due not to the fault of the operator but to the fraudulent sale of inferior oils."

If this college professor confuses fact and fiction as easily in his chemistry as in this statement, the sooner the university fires him the sooner some of its students may stand a chance of learning something about chemistry. We could apply his own reasoning to professors of chemistry everywhere and allege that because 20 per cent of the professors of chemistry in New York universities—because he is only one out of four or five, assuming he is a full professor—are such careless jugglers of the truth, and it is estimated there are 5,000 professors of chemistry over the country, and to be conservative assuming that it is only half as bad, then there are 500 professors of chemistry who are misleading thousands of youths every day in the class rooms.

The Fair (?) Trade League, if it wants to approximate its name, could well give all its "data" to the oil industry, make it public every bit of it. But evidently the league was misnamed.

This professional indictment of the whole oil industry was printed over the country under such appetizing heads as "Autoists Bilked on Oil," and "Reports Dishonesty in Auto Oil Sales." Never an oil man seems to have been consulted by the newspapers to see if there was another side to the story.

This is the kind of publicity upon which oil industry troubles have been built. It makes the public believe that the whole industry is crooked. Of course there are a few crooks in an industry as large as oil, and some substitute on these national brands and some probably do it with unfiltered crank case drainings but the percentage is very small indeed.

There is, however, the fact that the national brands of motor oils do not have access to oil company service stations which distribute the great bulk of oil and gasoline to the car owners, and therefore they must use dealers of a class that the rest of the oil industry will not sell to except cash in advance and maybe not then. Substitution is probably the least of the crimes some of those commit.

This paper is against substitution but it is unequivocably against vilifiers of the oil industry no matter who they are.

Comments From Oil Men

Writes A. M. Lockhart, vice president of the Rio Grande Oil Co., El Paso, Texas, "Your editorial of Aug. 11 entitled "Low Grade Dealers Are the Substitutors" is very much to the point, and we want to add our appreciation of the appearance of this editorial at this time. You are absolutely right in your contentions."

* * *

Then comes a criticism of the editorial from A. W. Scott, secretary and treasurer of the Empire Oil Works, Oil City, Pa., as follows:

"In reading the article in the issue of Aug. 11 of the National Petroleum News on page 61, which article was written by you personally, we cannot help but feel that the position you have taken regarding some certain advertisements is not very fitting for an editor of such a paper as yours. In the first place your paper carries some similar advertisements very frequently and strikes us that your criticism is not very well placed under the circumstanes. We particularly call your attention to that paragraph about the middle of the second column wherein you specifically refer to the two certain advertisements in question.

"We feel that you have taken entirely the wrong meaning from the first advertisement and we cannot see how any appreciable portion of the readers of your magazine would be inclined to take the same meaning as you have taken. For example, the advertisement in question states "Safeguarding your engine against heat and friction, responsible for 75 per cent of all engine repairs." Then you go on in your article to assume a position that the above statement means that if the right oil were chosen, 75 per cent of all of the engine troubles would be avoided.

"I do not believe that it is the intention of the advertisement to convey exactly that idea nor do I believe any substantial portion of the public would take that meaning from it. The advertisement plainly states that 75 per cent of all engine repairs are due to heat and friction which statement, we believe, is made advisably. We are firmly convinced that a large portion of this 75 per cent of all engine repairs can be avoided by the use of a real good oil but the advertisement mentioned did not claim that they can eliminate 75 per cent of all engine repairs by the use of the right kind of oil.

"We have very often had cases where our high class motor oils have been run in cars for several thousand miles without draining the crankcase and we have had wonderful reports as to the condition of these cars after using our oils for as much as 40,000 and 50,000 miles. We have many customers send in these reports voluntarily and it shows that there is a great deal more to the use of the right quality of oil than indicated in your article.

"To say the very least, we feel that the criticisms which you have openly given the advertisements in question are unfair and uncalled for."

* * *

That we were right in our interpretation of the particular oil ad is shown by the following that we stumbled on in a previous ad of the same company,—"Yet the failure of motor oils is so common that it is responsible for three-fourths of all engine repairs. And most motors that have wheezed their last tired mile to an early grave died of a broken oil film."

* * *

J. A. Seitz, lubricating engineer and dealer in oil products at Syracuse, N. Y. comments and opens up another avenue of trouble. He says,—

"I feel that you have opened up a wonderful avenue for discussion. Your article is all too true. The writer has been associated with the oil business for the past 27 years. In 1910 the same type of advertising was practised based on just such propaganda as you have outlined. If the oil companies would actually sell their products on the same basis that steel is sold or other like materials that enter into the construction of a motor car, namely by specification, there would be little reason to complain about substitution because then the value of one oil would necessarily be the same as the other, that would be true competition."

Mr. Seitz forwarded a printed circular he is getting out to support his contention that motor oils should be sold to the public on a specification basis. The circular was prompted by a little story in a Syracuse newspaper signed by E. W. Kimball, engineer with the Vacuum Oil Co. who pointed out that no specifications that would tell anything about motor oil would be practicable in the hands of the dealer or consumer, hence the buyer should pick a reliable oil company and stick to him. We believe with Mr. Kimball.

Motorists Should Take "Change Oil 4 Times a Year," with Grain of Salt

By Paul Truesdell
N. P. N. Staff Writer

FLINT, MICH., Aug. 19

A LONG step forward in the march toward better lubricating of automobiles it seems has been taken by the development of a system for ventilating the crankcase worked out by engineers of the Buick Motor Car Co. in collaboration with those of the General Motors Research Corp. This is being fitted on the 1927 Buick cars.

The invention is the chief factor serving as the basis of an enthusiastic advertising campaign now being carried out by the Buick company in which one of the chief slogans is, "Change Your Oil Only Four Times a Year." Despite the increased efficiency that the new device will undoubtedly give in lubrication, it would seem that the company is going pretty far in its advertising statements.

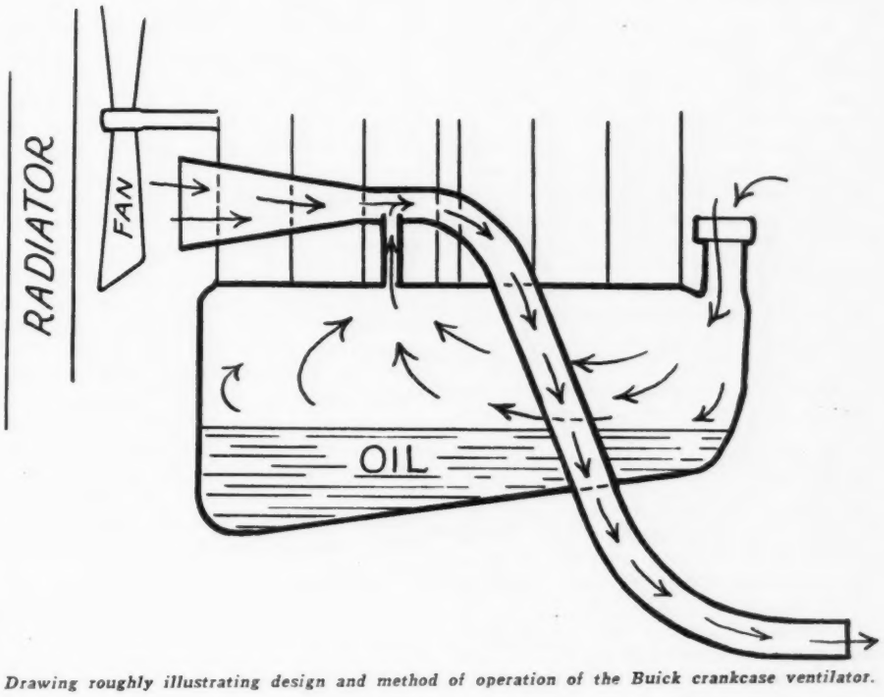
While in some cars carrying the new device, driven under favorable conditions and housed warmly during the winter, it may not be necessary to change the oil even as often as four times a year, the thousands of oil jobbers to whom their customers look for counsel in the lubrication of their cars can well warn the latter to take the four-times-a-year change talk, as a general policy, with a grain of salt.

The danger of such a broad statement to the motorist is that he is likely to take it more literally even than the author of the statement intended. Changing the oil is always more or less of a task if you do the job yourself, and a task to remember and see to if you let the service station or garage do it. So the chances are 1000 to 1 the motorist is not going to change his oil any oftener than he thinks he has to.

If he fills up the crankcase of his new Buick car he is likely to just drive and drive and drive, cherishing a feeling that he does not have to think of his oil again for three months. Such a driver is likely to get into trouble with the new car just as he would with any car.

Have Him Watch the Oil

IT would seem that the fitting thing for the oil jobber to do, when one of his customers gets a new Buick, is to tell him to watch his oil. Have him take out samples every once in a while and let the jobber test it or at least look at it. Quite likely the oil will stand up and won't need changing very often. If not, don't change it. But don't expect the crankcase ventilator to work miracles. How long the oil will keep its lubricating value in the individual car will depend on the weather and how the car is driven, whether mostly on long, non-stop trips, or on short trips with many stops and starts. These are two of the governing factors in the behavior of the oil in any car.



Drawing roughly illustrating design and method of operation of the Buick crankcase ventilator.

Two major griefs that have plagued automobile engineers since the beginning of the industry are the formation of water in the crankcase and excessive dilution of the oil in the crankcase by the fuel. It was to cure these evils so far as possible that the crankcase ventilator was developed.

Automobile engineers say water in the crankcase does two things, freezes up the oil pump in cold weather and corrodes the engine parts. A great deal of emphasis has been laid on the necessity of the refiner getting all the acid out of the oil to prevent corrosion of the engine. The acid would be diluted with the water and make an exceedingly corrosive weak acid. Refiners nowadays are almost without exception getting the acid out. Engineers have found out, however, that it isn't necessary to have acid in the crankcase water in order to get corrosion. Water alone will rust iron in the engine as well as any where else.

How the Ventilator Works

WHAT the crankcase ventilator is, and how it works and what it accomplishes were told by Walter Geise, one of the engineers of the Buick company. Mr. Geise was one of the men most active in developing the device and applying it to the car. H. C. Mougey, lubrication expert of the General Motors Research Corp. was another.

In the first place, the crankcase ventilator almost entirely eliminates the collection of water in the crankcase. In the second place, it greatly reduces dilution of the oil by the fuel. It is very simple in principle and construction, being simply an aspirator. It is operated by an air current generated by the fan.

A funnel, resembling in shape an ordinary automobile horn, is placed just behind the fan, with its open end pointing forward. To the base of the funnel is fastened a length of tubing which runs alongside the engine and terminates in an open end under the car. A vertical riser pipe leading from the inside of the crankcase above the oil level, is tapped into the horizontal pipe connected with the horn. The pipe is near the front of the crankcase. At the rear end is a vertical intake pipe which admits air into the crankcase. This intake is carefully screened to keep out dust.

When the fan is operating it drives a strong current of air into the funnel and through the pipe. The passage of the air pulls a suction on the pipe leading out of the crankcase, continually drawing out the air and with it whatever vapors and fumes the crankcase contains.

Water is formed by the combustion of the air-gas mixture in the cylinders. The high temperature keeps this water in the form of steam. Some of it leaks past

the piston rings into the crankcase, where it remains in the form of steam as long as the temperature in the crankcase is high. When the engine cools off, however, the steam condenses into water. According to various conditions, the water remains in the oil in emulisified form or it settles out and forms a pool in the bottom of the pan.

Removes Water as Steam

IN the winter, this oil frequently freezes on the screen of the oil pump intake and puts the pump out of commission. Result, frequently, ruined or scored bearings. With the ventilator the steam is caught as soon as it comes into the crankcase, drawn out and exhausted beneath the car. The aspirator starts to work as soon as the engine is started.

Thus it looks as if the danger from freezing of the water in the crankcase is practically a thing of the past where the ventilator is used. And, according to Mr. Geise, it is the rapid formation of water in the crankcase, rather than dilution by the fuel, that makes it necessary to change oil in the ordinary car more frequently in the winter than in the summer.

While Mr. Geise dislikes to give any average figures on account of the wide variation in cars and driving conditions, he estimated that a car in winter driving will form all the way from one to three per cent of water per 100 miles of driving. That means that after 100 miles the crankcase will contain from 99 parts oil and one part water to 97 per cent oil and three parts water.

According to Mr. Geise, one per cent of water is sufficient to freeze the oil pump on many cars under severe conditions. And taking out the water, of course, also reduces the corrosion of the engine parts.

As to dilution, Mr. Geise states that it is not true, as many believe, that all the fuel dilution of the oil is caused by the heavy ends of the gasoline that do not vaporize in the cylinders. His experiments have shown him that part of the fuel that is vaporized does not burn up in the cylinder and leaks in gaseous form past the pistion rings.

This gas is also caught by the aspirator before it has a chance to liquefy and dilute the oil. To determine what effect the aspirator has on dilution, Mr. Geise and his associates ran a number of tests. Under severe driving conditions he found that the aspirator reduces dilution by from 15 to 20 per cent.

Made Tests Run

A NUMBER of test runs were made with cars without the aspirator in cold weather, and designed to typify the most severe driving conditions. The runs involved driving a short distance, letting the car stand for several hours in the cold, then running another short distance, stopping and standing again and so forth. With the cars not equipped with the new device, the average dilution in runs of this sort, comprising about 90 stops and starts, ran from 40 per cent up.

On cars fitted with the ventilator similar runs under the same conditions showed dilution of only 20 to 25 per cent. On the dilution of the oil by heavy ends of the gasoline that does not vaporize, the aspirator has little effect, but Mr. Geise does not regard this as serious. On long fast drives, where the engine gets well heated up, it is likely that even some of the heavy ends would be boiled off, because the work of the aspirator is continuous.

"It is undesirable to prevent dilution entirely in the winter time," says he. "If there was no dilution, the average oil in very cold weather would become so stiff you couldn't start your car." From this it is evident that Mr. Geise does not share the unfavorable opinion put forth from time to time by automobile engineers and others to the effect that the endpoint of most gasolines marketed today is so high that it causes excessive dilution.

Some engineers think the aspirator is a better device for the purpose than the oil rectifier used on many cars. At least it is simple and fool proof. It is pointed out that if the aspirator fails to work, which is most unlikely because of its simplicity, it does no harm, as the car is no worse off than the millions of other cars on the road that do not have such devices. Whereas the oil rectifier, designed to boil off the light ends from the oil, is likely to put the car out of action if it fails.

We don't know what the patent situation on the aspirator is but, knowing the general liberal policy of the automobile industry on patents, it seems likely to suppose that, if the aspirator is as good as it seems to be, it will be used in some form on practically all cars on the market within a year or two.

One possibility is that the use of the device will have still another effect toward promoting better lubrication, in permitting the use of lighter oils generally. It is recognized that the trend for several years has been toward heavier oils. An oil known to be too heavy for maximum efficiency has been put in the crankcase because it was expected to be diluted within a short time down to about the proper viscosity. Too heavy an oil, of course, increases friction, increases fuel consumption and lessens power output.

It was to cure the loss of power and increase of consumption of gasoline through using an oil of too high a coefficient of friction, that the Standard Oil Co. of New Jersey brought out its new "Standard Motor Oil", described in an article in N. P. N. a few weeks ago.

If the aspirator, together with air cleaners and other new devices recently developed, keep dilution well below the danger point, it seems likely that it will shortly be possible to put in the crankcase of your car, an oil exactly suitable for that engine, and within much closer limits than is now possible, to keep it that way.

Gulf Widens Spindletop Deep Producing Area

HOUSTON, Aug. 20—Gulf Production Co.'s No. 1 Jack & Duff test, 600 feet south of deep flank production on the southwest side of the Spindletop salt dome, widened the productive area by the distance mentioned and strengthens estimates of final yields reaching into the tens of millions of barrels from Spindletop offside producing levels.

The Jack & Duff well, completed for 4500 barrels daily, initial production, at 3315 feet, was finished at total depth nearly 500 feet greater than most of the other Spindletop flank wells. It is not in a new sand, however, the depth to the oil pay being accounted for by the dip of the sand body away from the salt dome structure.

Daily average production at Spindletop at the end of the week was roundly 77,000 barrels.

Crude Gasoline Stocks Drawn On In July

NEW YORK, Aug. 23.—A decrease in tank farm and pipe line stocks of crude oil east of the Rockies of 3,112,000 barrels during July is shown in the American Petroleum Institute preliminary report of operations for that month. This compares with a decrease of 3,292,000 barrels in the institute's preliminary report for the month previous.

As regards changes in refined products also, the institute report for July follows pretty closely the June report, the report taking in for each month about 80 per cent of the operating refining capacity of the country. In July there was net increase of 1,580,000 barrels of crude and refined products at refineries to partly offset the decrease of 3,112,000 barrels in tank farm and pipe line stocks. Gasoline was the only product to show a decline in July over June, by 1,981,000 barrels. Gas and fuel oil stocks increased 2,758,000 barrels, kerosene 405,000 barrels, lubricating oils 196,000 barrels and domestic and foreign crude about 218,000 barrels.

The June preliminary report showed a net increase of 1,472,000 in crude and refined stocks at refineries. Gasoline was drawn on by 1,529,000 barrels and lubricating oils by 355,000 barrels. Domestic crude at refineries increased 1,325,000 barrels in June, kerosene 520,000 barrels and gas and fuel oil 1,228,000 barrels.

Osage Acreage Sale Set For September 30

PAWHUSKA, Aug. 23.—Announcement is made by the superintendent of the Osage agency here that a sale of Osage leases will be held Thursday, Sept. 30. Tracts to be offered for bids will comprise 35,000 acres. This will be the second sale of the current fiscal year, the first having been a two day affair last March 17 and 18, at which time the Osages were enriched to the extent of four million dollars.

Completions in North Louisiana and Arkansas, Week Ending Aug. 19

LOUISIANA

Urania

Company	Well	Location	Depth	Yield
O. W. Clark, trustee	Harper No. 5	26-10-1E	1500	1000
Mitchell et al	Cox-Herbert No. 1	26-10-1E	1510	50
Mitchell et al	Cox-Herbert No. 2	26-10-1E	1505	40
Nat. Gas & Fuel Corp.	Urania F-4	24-10-2E	1555	30
Nat. Gas & Fuel Corp.	Urania M-2	19-10-2E	1570	50
Spring Hill—Webster Parish				
Magnolia Pet. Co.	J. S. Sexton No. 1	32-23- 9	2635	5m. gas
Caddo Parish—Vivian				
Bayou State Oil Co.	Hoss No. 28	24-22-15	1080	25
Standish O. & R. Co.	Allen No. 8	23-22-15	1060	25
Caddo Parish—Caddo District				
Double II Oil Co.	Spell No. 7	15-21-15	1740	40
Texas Oil Co.	Hicks & Payne No. 4	21-21-15	2335	Dry
Cotton Valley—Webster Parish				
Magnolia Pet. Co.	J. Tiner No. 3	21-21-10	2555	25
Bellevue—Bossier Parish				
Louisiana Oil Ref. Corp.	Fee D-31	15-19-11	395	15
Union Parish				
Southern Carbon Co.	Grayling No. 5	21-21-4E	2190	10m. gas
Ouachita Parish				
Southern Carbon Co.	Fee No. 49	7-19-5E	2180	20m. gas
East Texas—Panola County				
Magnolia Pet. Co.	Robt. Johnson No. 1 Jas. Johnson HRS		1973	25

ARKANSAS

Nevada County

Company	Well	Location	Depth	Yield
Autrey Oil Co.	Womack No. 6	10-14-21	1225	50
Stephens				
Hude & Aarnes	Brown No. 2	13-15-20	3590	junked
Magnolia Pet. Co.	Maggie Watson No. 4	31-15-19	2180	10
LaFayette County				
Arkansas Fuel Oil Co.	Allen No. 4	18-19-24	2803	50
Lisbon				
Gulf Refining Co.	Mrs. L. Parker No. 1	21-17-16	2130	25
Gulf Refining Co.	Mrs. L. Parker No. 2	21-17-16	2125	50
Wingfield et al.	Gallagher No. 1	10-17-17	3008	Dry
Roxana Pet. Co.	Willett No. 2	3-17-16	2077	75
Murdock et al.	Vestal No. 7	17-17-16	2792	25m. gas
Lion O. & R. Co.	Mitchell A-7	17-17-16	2145	20
Lion O. & R. Co.	Mitchell B-2	17-17-16	2180	2m. gas
H. L. Hunt	H. O. Murphy No. 7	4-17-16	2135	65
Atlantic O. P. Co.	Ford No. 3	3-17-16	2125	25
Atlantic O. P. Co.	Goodwin No. 6	16-17-16	2190	50
Smackover				
E. C. Ferguson Drlg. Co.	Howard No. 2	7-16-16	2663	junked
Magnolia Pet. Co.	Childs No. 2	8-16-16	2610	35
Marine Oil Co.	Epps No. 1	21-16-16	2820	salt water
Southern Crude Oil Purch. Co.	Wells B-4	15-16-15	2592	60
Texas Oil Co.	C. L. Saxon No. 4	4-16-16	2045	40
Simms Oil Co.	Tom Murphy No. 5	29-15-15	2301	junked
Gulf Refining Co.	T. C. Murphy No. 22	9-16-15	2385	300

Virginia Jobbers Ass'n To Hold First Meeting

CHARLOTTESVILLE, VA., Aug. 24.—The Virginia Independent Oil Men's Association will hold its first annual meeting at the Jefferson Hotel, in Richmond, Sept. 15-16, according to J. B. Belk, president of the Albemarle Oil & Gas Co. of Charlottesville who was instrumental in organizing the association. As stated in National Petroleum News Aug. 18, issue, this newest of state associations received its charter Aug. 2.

All Virginia jobbers are urged to be present and Mr. Belk says indications point to a large attendance. Officers will be elected and open forum sessions held. L. V. Nicholas, president of the National Petroleum Marketers Association has promised to be there, according to Mr. Belk.

One of the subjects that probably will come in for considerable discussion at the meeting is the suit filed by 10 gasoline dealers of Charlottesville and surrounding territory in Albemarle county, seeking to force the Standard Oil Co. of New Jersey and The Texas Co. to allow "usual and customary" differential between the tank car and tank wagon prices and also between the tank wagon price and the service station price.

Los Angeles Water Shipments, Week Ended Aug. 14

(Barrels of 42 U. S. Gallons)

	Crude	Gasoline	Fuel Oil	Kerosene	Gas Oil	All Products
Atlantic Domestic	158,000	378,582	.....	.....	75,000	621,582
Atlantic Foreign	.....	.....	.....	.....	.....	.....
Pacific Domestic	366,453	39,512	138,920	.....	.....	544,885
Pacific Foreign	.....	80,678	238,969	127,278	.....	446,925
Total shipments for week ended July 31 (35 tankers)						2,310,249
Total shipments for week ended Aug. 7 (23 tankers)						1,613,392
Total shipments for week ended Aug. 14 (36 tankers)						2,289,376

Ships Clearing for Atlantic Seaboard

Tanker	Destination	Consignee	Cargo Barrels
Franklin K. Lane	Baltimore	Pan American Pet. Co.	76,444 Gasoline
Algonquin	New York	Standard Transportation Co.	75,000 Gas Oil
Sunbeam	Baltimore	Sun Oil Co.	80,021 Gasoline
Frederick R. Kellogg	New York	Pan American	67,000 Gasoline
S. C. T. Dodd	Fall River	Standard Oil Co.	75,000 Crude
W. M. Irish	Philadelphia	Atlantic Ref. Co.	80,536 Gasoline
Pennsylvania Sun	New York	Sun Oil Co.	93,000 Crude
Yorba Linda	Baltimore	General Pet. Corp.	74,581 Gasoline

Los Angeles Water Shipments, Week Ended Aug. 21

(Barrels of 42 Gallons)

	Crude	Gasoline	Fuel Oil	Gas Oil	Kerosene	All Products
Atlantic Domestic	322,043	.....	328,358	.....	.....	650,401
Atlantic Foreign	116,036	75,989	.....	.....	.....	192,025
Pacific Domestic	453,956	229,347	189,597	.....	.....	880,900
Pacific Foreign	42,000	65,000	345,687	.....	150,000	602,687
Total shipments for week ended July 31 (35 tankers)						2,310,249
Total shipments for week ended Aug. 7 (23 tankers)						1,613,392
Total shipments for week ended Aug. 14 (36 tankers)						2,289,376
Total shipments for week ended Aug. 21 (37 tankers)						2,326,013

Ships Clearing for Atlantic Seaboard

Tanker	Destination	Consignee	Barrels
Swifteagle	Fall River	Swiftsure Oil Co.	76,380 Crude
Agwisun	New York	Tide Water Oil Co.	77,000 Crude
J. M. Danziger	New York	Pan American Pet. Co.	72,358 Fuel Oil
William Rockefeller	New York	Standard Oil Co., N. J.	130,000 Fuel Oil
Agwibay	New York	Tide Water Oil Co.	90,800 Crude
Standard	Baltimore	Standard Oil Co. N. J.	117,000 Fuel Oil
Swiftwing	Fall River	Swiftsure Oil Co.	77,863 Crude

Shoup Quits As Head Of Associated Oil

SAN FRANCISCO, Aug. 20.—Axtell J. Byles, president of the Tide Water Oil Co., has succeeded Paul Shoup as president of the Associated Oil Co. William Humphrey chief counsel of the Associated, has been elected chairman of Associated to succeed Mr. Shoup.

It was announced by Mr. Shoup that he was leaving the Associated because of the press of railroad work. He is one of the vice-presidents of the Southern Pacific and is interested in other western lines. He became affiliated with the oil industry when the Southern Pacific Co. segregated its oil property in the Pacific Oil Co. which was merged with the Standard Oil Co. of California on Jan. 1, last. The Pacific was the largest owner of Associated stock and Mr. Shoup, who had come from the railroad company, became the operating head of both the Pacific and the Associated. The latter and the Tide Water were consolidated last March.

Announcement of his resignation follows:

"The organization of Associated Oil Co. will not be further affected by the change in presidency. I am retiring because the increase in railroad duties some time ago made it desirable that I should relinquish my work with Associated Oil as soon as certain adjustments incident to its new association with Tide Water Associated could be made. But this will not effect the policies of the company or the personnel of the operating staff."

Compilation Of Mid-Continent Refinery Operations

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Mid-Continent Refinery Operations Week Ended Aug. 20 (By Telegraph)

	Kansas	%Change Previous Week	Oklahoma	%Change Previous Week	No. Cent. Texas	%Change Previous Week	No. La.-Ark.	%Change Previous Week	Totals Week Ended Aug. 20	%Change Previous Week	Totals Week Ended July 23
Plants Reporting...	23		46		41		14		124		124
Da. Cap. (Bbls.)....	98,200		165,900		144,300		53,700		462,100		460,100
Da. Av. Crude Runs.	68,809	+16.9	105,704	+ 1.8	65,545	— 3.6	53,798	— 6.6	293,856	+ 2.2	273,829
Da. Av. Other Oils..	3,175	—63.8	—625	.....	1,271	—31.1	1,151	+1264.8	4,972	—45.8	9,749
GASOLINE—Gallons											
Stocks Aug. 13.....	7,416,336		22,617,297		12,889,625		3,219,108		46,142,166		58,125,970
Prod. 8-13 to 8-20...	10,051,999	+ 0.6	15,362,077	+ 2.8	7,392,577	— 0.9	3,052,753	— 9.1	35,859,406	+ 0.3	34,713,832
Ship. 8-13 to 8-20...	9,707,378	+ 4.9	15,288,347	— 5.7	7,216,122	+12.9	3,382,180	— 38.3	35,594,027	— 4.7	39,423,091
Stocks August 20...	7,760,957	+ 4.6	22,691,027	+ 0.3	13,065,980	+ 1.4	2,889,681	— 10.3	46,407,645	— 0.6	53,416,711
% of Sales to Prod..	96.6%		99.5%		97.6%		110.8%		99.2%		113.6%
KEROSENE—Gallons											
Stocks Aug. 13.....	1,652,175		4,239,277		2,200,385		449,600		8,541,437		12,568,322
Prod. 8-13 to 8-20...	1,656,460	+17.1	2,114,189	+ 1.4	1,200,917	—24.4	479,624	+ 6.4	5,451,190	— 1.6	3,949,910
Ship. 8-13 to 8-20...	1,488,170	—28.7	2,759,825	+ 6.7	1,470,759	+ 5.1	424,964	+ 40.1	6,143,718	— 3.7	4,766,314
Stocks August 20....	1,820,465	+10.1	3,593,641	—15.3	1,930,543	—12.3	504,260	+ 12.1	7,848,909	— 8.2	11,741,918
% of Sales to Prod...	89.8%		130.5%		122.4%		88.6%		112.7%		120.9%
STOVE DISTILLATE—Gallons											
Stocks Aug. 13.....	4,404,588		3,206,284		1,252,026		324,388		9,187,286		7,547,523
Prod. 8-13 to 8-20...	566,262	+ 9.3	410,654	+17.9	263,011	+ 1.5	184,632	— 55.1	1,424,559	— 7.3	1,226,242
Ship. 8-13 to 8-20...	459,697	+93.3	258,392	+10.3	250,279	—22.3	147,882	— 37.9	1,116,250	+ 8.1	1,269,189
Stocks August 20...	4,511,155	+ 2.4	3,358,546	+ 4.7	1,264,758	+ 1.0	361,138	+ 11.3	9,495,595	+ 3.3	7,504,576
% of Sales to Prod..	81.2%		62.9%		95.1%		80.1%		78.2%		103.5%
GAS OIL—Gallons											
Stocks Aug. 13.....	9,236,565		34,074,194		7,943,927		2,346,433		53,601,119		53,530,079
Prod. 8-13 to 8-20...	1,946,805	— 2.0	—722,101	.....	1,633,32.	+55.5	2,149,577	— 23.8	5,007,603	+ 0.1	5,961,390
Ship. 8-13 to 8-20...	2,437,023	+105.9	243,007	—74.4	873,946	+717.4	1,657,908	—35.8	5,211,884	+ 8.1	4,121,038
Stocks August 20...	8,746,347	— 5.4	33,109,086	— 2.9	8,703,303	+ 9.5	2,838,102	+ 20.9	53,396,838	— 0.4	55,370,432
% of Sales to Prod..	115.2%		.....		53.5%		77.1%		104.1%		69.1%
FUEL OIL—Gallons											
Stocks Aug. 13.....	9,093,467		65,580,181		18,181,093		9,683,839		102,537,580		93,574,038
Prod. 8-13 to 8-20...	5,840,930	+ 9.2	9,116,292	— 0.8	7,927,925	+0.03	9,240,428	+ 0.3	32,135,575	+ 2.4	28,682,342
Ship. 8-13 to 8-20...	6,138,730	— 8.8	10,072,980	+45.9	7,414,621	+ 4.1	11,219,204	+ 47.8	34,845,535	+ 9.9	27,609,397
Stocks August 20...	8,794,667	— 3.3	64,623,493	— 1.5	18,704,397	+ 2.8	7,705,063	—20.5	99,827,620	— 2.6	94,646,983
% of Sales to Prod..	105.1%		110.4%		93.4%		121.4%		108.4%		96.3%

Gasoline Production by Various Methods, Week Ended Aug. 20

	Kansas	% of Total	Oklahoma	% of Total	Texas	% of Total	La.-Ark.	% of Total	TOTAL	% of Total
Straight run.....	7,331,335	72.9	9,479,777	61.7	6,068,406	82.1	1,341,208	43.9	24,220,726	67.6
Cracked.....	2,334,390	23.2	4,727,132	30.8	1,117,825	15.1	1,404,399	46.0	9,583,746	26.7
Natural.....	286,274	3.9	1,155,168	7.5	206,346	2.8	307,146	10.1	2,054,934	5.7
	10,051,999		15,362,077		7,392,577		3,052,753		35,859,406	

Gasoline Output and Shipments Well Balanced

Staff Special—By Telegraph

TULSA, Aug. 24.

GASOLINE stocks at 124 Mid-Continent refineries on Aug. 20 were little changed from inventories on Aug. 13. For the first time in two months refiners failed to reduce motor fuel stocks substantially.

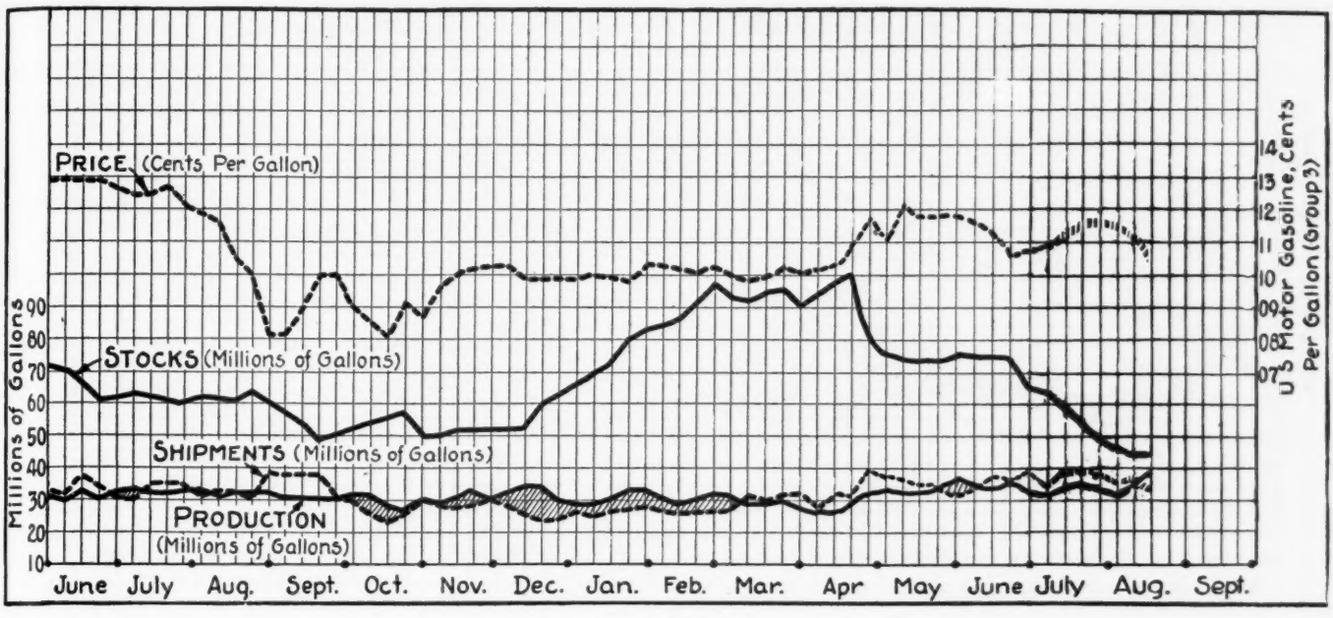
Shipments of gasoline from the refining group which represents approximately 60 per cent of the total in the field fell nearly 2,000,000 gallons below shipments in the week ended Aug. 13 to 35,594,027 gallons. Gasoline production was increased slightly to 35,859,406 gallons. Stocks were thus increased only approximately 300,000 gallons.

The heavy reduction in kerosene stocks which has featured the Mid-Continent operations during July and August, continued. Production last week totaled 5,451,190 gallons and shipments were 6,143,718 gallons, causing a reduction in stocks of 750,000 gallons. Stocks at all plants on Aug. 20 totaled 7,848,909 gallons, representing only a little over

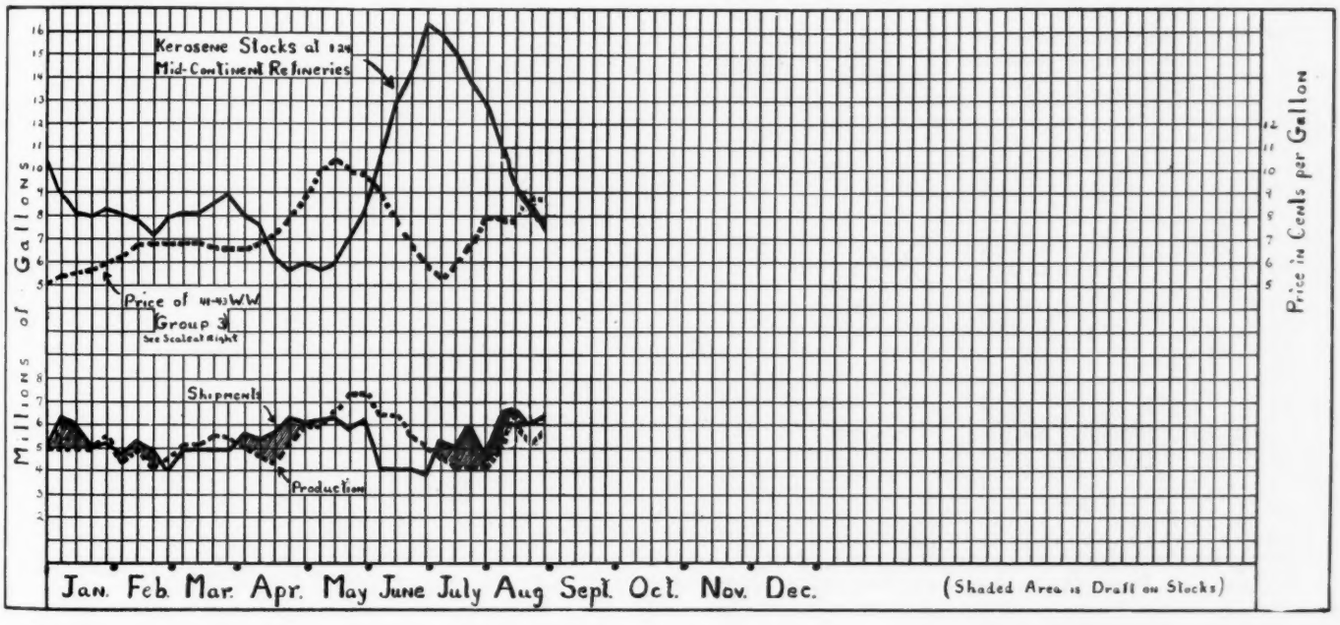
Barometer of Mid-Continent Refinery Market—Week Ending Aug. 20.

Charted Course of Prices, Production, Shipments, Stocks of Principal Refined Products, Week by Week, From Reports Made by 124 Plants to National Petroleum News

GASOLINE


PRICE (Cents Per Gallon)
STOCKS (Millions of Gallons)
SHIPMENTS (Millions of Gallons)
PRODUCTION (Millions of Gallons)
Millions of Gallons
U.S. Motor Gasoline, Cents Per Gallon (Group 3)
June July Aug. Sept. Oct. Nov. Dec. Jan. Feb. Mar. Apr May June July Aug. Sept.

KEROSENE


Kerosene Stocks at 124 Mid-Continent Refineries
Price of 41-43 WW Group 3
See Scale at Right
Shipments
Production
Millions of Gallons
Price in Cents per Gallon
Jan. Feb. Mar. Apr. May June July Aug Sept. Oct. Nov. Dec.
(Shaded Area is Draft on Stocks)

one week's supply at the current rate of shipments.

Reasons for the better condition of the fuel oil market are apparent in the heavy oil section of the report. Shipments of fuel oil increased 6,500,000 gallons over previous week's shipments, totaling 34,845,535 gallons. Fuel output was increased only 500,000 gallons to 32,135,575 gallons. Stocks were reduced 2,700,000 gallons to 99,827,620 gallons. All districts except north and central Texas reduced stocks. In Texas gains were small.

Gas oil shipments were 200,000 gallons more than production, but the steady accumulation of stove distillate in anticipation of the fall trade continued. Distillate stocks were increased 300,000 gallons to 9,495,595 gallons.

Charges of crude to stills were increased 6400 barrels daily average to an average of 293,856 barrels but charges of partly refined oils were reduced 4000 barrels daily average, making a net increase in charges of 2400 barrels.

Gasoline stocks at Mid-Continent refineries are now almost too low for the

Summary for the Month

Production and shipments, all reporting refineries for four weeks ended August 20. Change in stocks figured from July 23.

Gasoline

	Gallons
Production	141,583,688
Shipments	148,592,854
Net change in stocks	—7,009,166
Ratio sales to production	104.9%

Kerosene

Production	21,773,303
Shipments	25,666,312
Net change in stocks	—3,893,009
Ratio sales to production	117.8%

Stove Distillate

Production	5,953,467
Shipments	3.962,448
Net change in stocks	+1,991,019
Ratio sales to production	66.5%

Gas Oil

Production	2,068,856
Shipments	22,602,449
Net change in stocks	—1,973,593
Ratio sales to production	109.5%

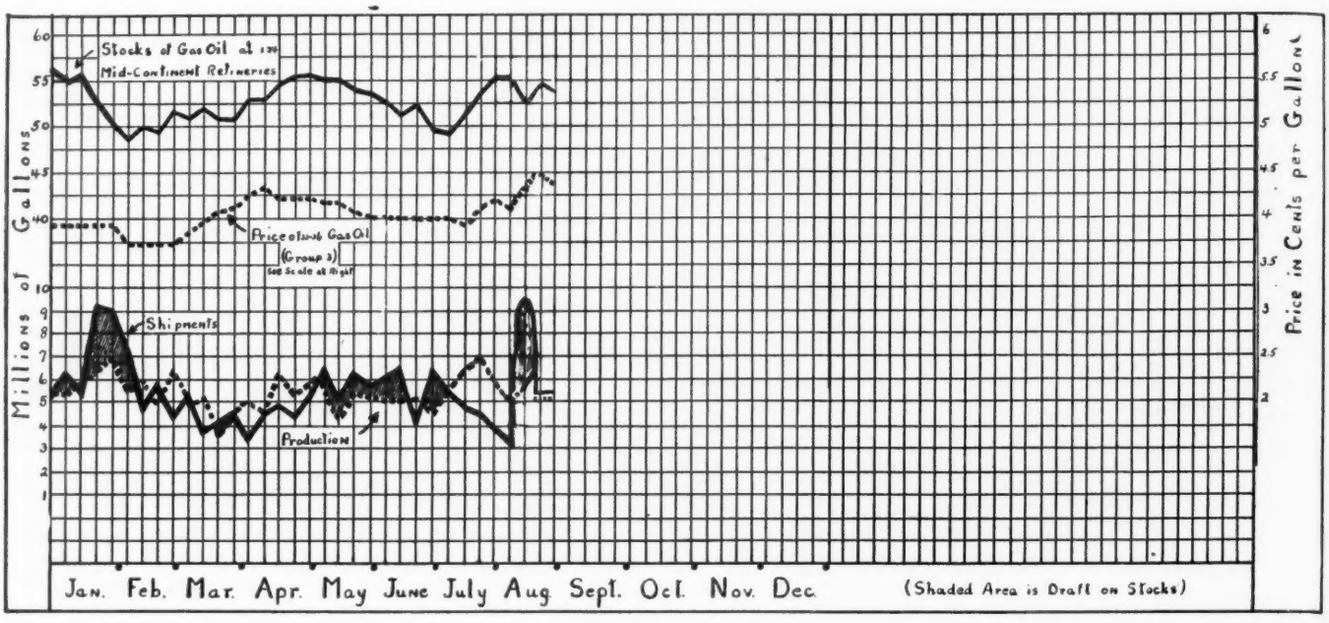
Fuel Oil

Production	122,382,038
Shipments	117,201,421
Net change in stocks	+5,180,617
Ratio sales to production	95.7%

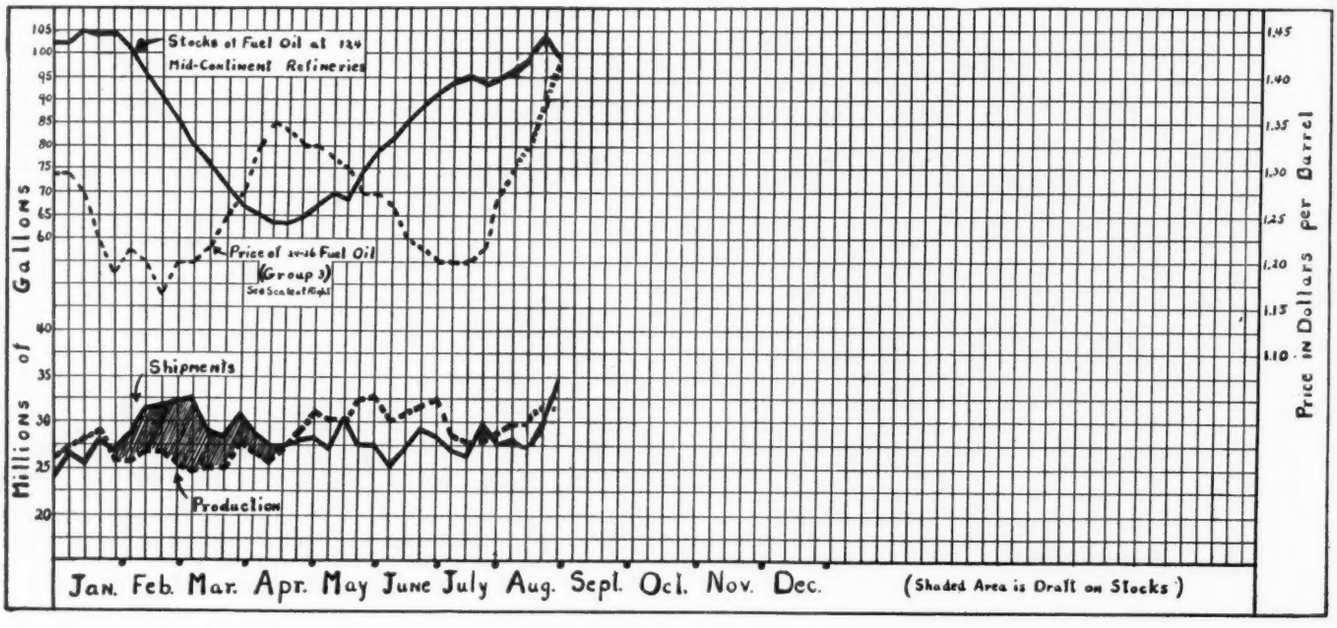
Barometer of Mid-Continent Refinery Market—Week Ending Aug. 20.

Charted Course of Prices, Production, Shipments, Stocks of Principal Refined Products, Week by Week, From Reports Made by 124 Plants to National Petroleum News

GAS OIL


Stocks of Gas Oil at 124 Mid-Continent Refineries
Price of 36-46 Gas Oil (Group 3)
See Scale at Right
Shipments
Production
Millions of Gallons
Price in Cents per Gallon
Jan. Feb. Mar. Apr. May June July Aug. Sept. Oct. Nov. Dec.
(Shaded Area is Draft on Stocks)

FUEL OIL


Stocks of Fuel Oil at 124 Mid-Continent Refineries
Price of 36-46 Fuel Oil (Group 3)
See Scale at Right
Shipments
Production
Millions of Gallons
Price in Dollars per Barrel
Jan. Feb. Mar. Apr. May June July Aug. Sept. Oct. Nov. Dec.
(Shaded Area is Draft on Stocks)

comfort of manufacturers since they represent only nine days' supply at the current rate of shipment. It is to be expected that refiners will continue to keep their production up approximately to the level of shipments during the remainder of the season and no further reductions in stocks of great consequence should be exected.

AMARILLO.—Frank A. Bates, formerly with Skelly Oil Co., and well known throughout the Mid-Continent field, is now stationed in Amarillo as representative of the Southwest Supply Co., of which John Phillips, of Bartlesville, Okla., is the head. Where Frank formerly bought leases he is now covering the same territory selling pipe.

State Association Men Meet

CHICAGO, Aug. 23.—A few members of the Executives' club met at the Congress hotel here on Aug. 19 and 20. Half a dozen men gathered in informal session about four hours on the afternoon of the second day. The club is made up of presidents and secretaries of state jobbers' associations.

The group confined its discussions to internal matters, means of making their organization more useful and widening its activities for the benefit of oil marketers.

One president and five secretaries of state associations were present. James A. Gilmore, new secretary of the American Oil Men's Association and president of the Executives' club, made room for the meeting in his quarters at the Congress.

The Michigan organization was represented by its president, H H. Ragle. Sutherland of Nebraska, Hurd of Indiana, Hughes of Ohio and Primm of Illinois were the four state secretaries present. The time of this meeting was set to coincide with the dates of a two weeks' course of training for association secretaries in progress at Northwestern University in Evanston. Secretary Hughes of the Ohio jobbers association was the only representative of an oil organization who matriculated for the full course.

WINFIELD, ALA.—Texaco products are being distributed in this territory by the Hollis Motor Co.

—and They'll Save Money for You!

The durability of Wheaton Products—their rugged strength that stands almost impervious to time and wear—is the result of the *Quality* which is built into every Wheaton faucet, valve, joint, coupling, filler, nozzle and connection. And this *Quality*, for which Wheaton Products have long been famed, has enabled them to save money for the hundreds of Wheaton users—*and they'll save money for you!* Send for a sample of any Wheaton Product. Test it for 30 or 60 days, and, if it does not prove wholly satisfactory, you may return it for full credit or refund. Also, write today for illustrated catalog containing full information about all the Wheaton Products.

Type K Barrel Faucet

Type 60 Filling Pipe Cap

Single Swing Joint

Double Swing Joint

Tank Car Swivel Reducing Connection

Type A Tank Truck Faucet

Type B Tank Truck Faucet

Type 24 Tank Truck Faucet

Anti-Freeze Valve

Type 12 Gooseneck Open Hose Nozzle

Type 36 Quick Hose Coupling

Type 25 Loading Valve

Type 50 Wet Hose Auto-Filling Faucet

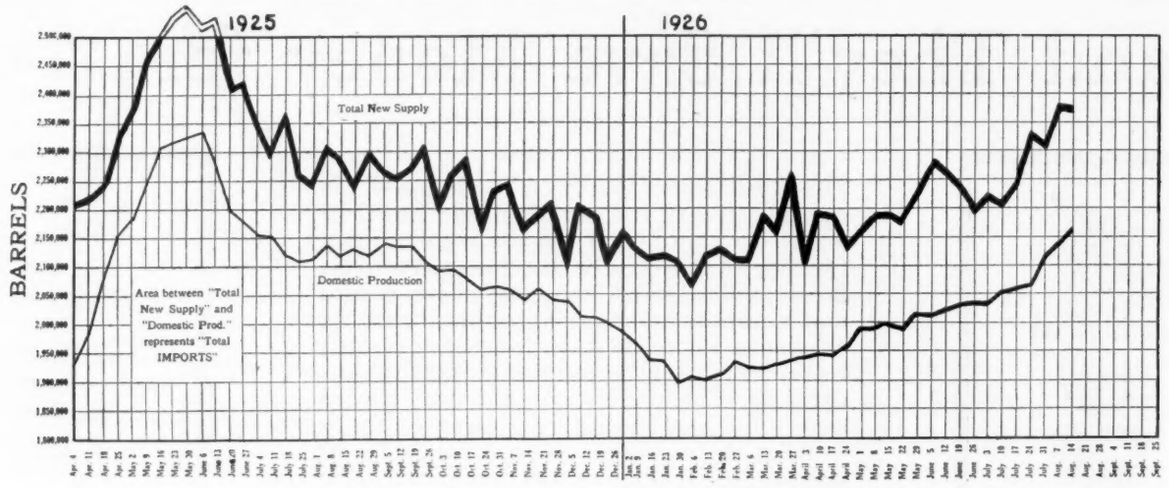
Type 26 Loading Valve

A. W. WHEATON BRASS WORKS
NEWARK, N. J.

Wheaton

Daily Average Crude Oil Production and Imports

(This chart is one week older than figures given below)



Daily average gross crude output of United States, by fields, for week ending with dates given below, as compiled by American Petroleum Institute.

Production Summary

Daily average figures for week ending Aug. 21, in barrels as compiled by American Petroleum Institute.

	Aug. 21	Aug. 14
East of Rockies	1,564,400	1,551,450
Increase		12,950
Total U. S.	2,170,500	2,162,050
Increase		8,450
Crude Oil Imports	160,857	216,857
Decrease		56,000
Total Crude Supply	2,331,357	2,378,907
Decrease		47,550

OKLAHOMA

	Aug. 21	Aug. 14
North Braman	12,300	6,600
South Braman	8,800	7,800
Blackwell	4,200	4,300
Hubbard	2,550	2,300
Thomas	2,400	2,500
Tonkawa	35,750	37,200
Garber	32,350	33,300
Burbank	49,300	49,250
Osage, outside Burbank	34,100	34,100
Watchorn	2,850	2,900
Cushing	21,650	21,650
Yale Jennings	13,500	13,800
Davenport	7,200	7,250
Bristow-Slick	28,050	28,250
North Okmulgee	17,300	17,200
Lyons-Deaner	4,000	4,000
Stroud	2,050	2,000
Cromwell	16,450	16,550
Papoose	9,650	9,850
Wewoka	32,050	33,000
Duncan district	7,450	7,450
Graham	10,150	9,900
Fox	5,850	6,000
Healdton	14,800	14,900
Hewitt	11,450	11,450
Seminole	14,700	14,400
Others	67,000	67,000
Total Oklahoma	467,900	464,900
Increase		3,000

KANSAS

Florence-Covert	2,000	1,950
Peabody-Elbing	4,100	4,150
Eldorado-Towanda	13,850	13,750
Augusta-Fox-Bush	4,850	4,900
Rainbow Bend	3,950	3,950
Russell	5,200	5,200
Greenwood County	45,600	45,400
Others	33,100	31,750
Total Kansas	112,650	111,050
Increase		1,600

NORTH LOUISIANA

Homer	5,500	5,600
Haynesville	9,500	9,500
Caddo, light	10,250	10,200
Caddo, heavy	2,650	2,900
De Soto, Red River	4,100	4,000
Elm Grove	550	550
Bellevue	2,100	2,100
Cotton Valley	7,950	7,950
Urania	14,250	13,800
Total North Louisiana	56,850	56,600
Increase		250

ARKANSAS

	Aug. 21	Aug. 14
El Dorado	7,050	7,050
Smackover, light	14,800	14,900
Smackover, heavy	122,000	121,650
Stephens	1,850	1,850
Nevada	2,000	1,850
Lisbon	9,000	9,550
Total Arkansas	156,700	156,850
Decrease		150

NORTH TEXAS

Burkburnett	11,550	11,700
Electra	16,200	16,300
Iowa Park and K-M-A	4,400	4,400
Wilbarger	14,450	14,350
Hutchinson County	97,600	86,850
Panhandle	9,000	9,200
Petrolia	550	550
Archer County	31,600	32,400
Others	4,550	4,700
Total North Texas	189,900	180,450
Increase		9,450

EAST CENTRAL TEXAS

Mexia	12,200	12,350
Currie	800	800
Richland	1,550	1,550
Corsicana-Powell	27,350	27,750
Wortham	7,200	7,350
Nigger Creek	12,850	6,750
Total E. Cen. Texas	61,950	56,550
Increase		5,400

WEST CENTRAL TEXAS

Stephens County	11,150	11,350
Eastland County	5,750	5,750
Desdemona	1,750	1,750
Young County	6,600	6,850
Palo Pinto County	450	450
Callahan County	4,350	4,350
Shackelford County	9,700	11,350
Brown County	10,450	10,950
Reagan County	28,900	29,350
Crane and Upton Counties	5,450	4,500
Others	7,250	6,100
Total W. Cen. Texas	91,800	92,750
Decrease		950

SOUTHWEST TEXAS

Luling	21,600	21,900
Laredo district	17,400	16,800
Somerset	2,000	2,000
Lytton Springs	4,200	4,000
Piedras Pintas	150	200
Others	500	500
Total Southwest Texas	45,850	45,400
Increase		450

GULF COAST

Goose Creek	10,650	11,300
Hull	15,250	17,250
Saratoga	1,350	1,350
Blue Ridge	1,300	1,200
Damon Mound	850	850
Batson	1,350	1,350
West Columbia	9,250	9,850
Humble	4,000	4,000
Pierce Junction	2,900	2,650
Sour Lake	5,250	5,250
Spindletop	75,700	78,300
Orange County	7,800	9,650
Edgerly	1,000	1,050
Evangeline	1,150	1,150
Vinton	6,450	6,850
Lockport	4,150	4,450
South Liberty	4,900	5,700
Big Creek	2,000	1,750
Boling	2,100	1,800
Others	1,800	1,750
Total Gulf Coast	159,200	167,500
Decrease		8,300

ROCKY MOUNTAIN

Wyoming

	Aug. 21	Aug. 14
Salt Creek	48,700	49,050
Grass Creek	3,000	3,150
Elk Basin	900	850
Big Muddy	3,200	3,400
Lost Soldier	5,250	5,250
Rocky River	2,700	2,700
Teapot Dome	1,300	950
Others	5,100	5,600
Total Wyoming	70,150	71,000
Decrease		850

Montana

Cat Creek	2,750	2,750
Sunburst	25,000	23,500
Others	200	250
Total Montana	27,950	26,500
Increase		1,450

Colorado

Moffats (Craig)	3,200	3,100
Fort Collins	4,000	4,100
Florence	500	500
Others	1,150	1,200
Total Colorado	8,850	8,900
Decrease		50

New Mexico

Artesia	3,000	3,000
Hogback	700	700
Rattlesnake	1,450	800
Total New Mexico	5,150	4,500
Increase		650
Total Rocky Mountain	112,100	110,900
Increase		1,200

CALIFORNIA

Santa Fe Springs	49,000	49,500
Long Beach	102,000	104,500
Huntington Beach	45,500	45,000
Torrance	28,500	28,500
Dominguez	21,500	21,500
Rosecrans	15,000	15,500
Inglewood	45,000	46,000
Midway-Sunset	94,500	94,500
Ventura Avenue	45,100	45,600
Others	160,000	160,000
Total California	606,100	610,600
Decrease		4,500

EASTERN

(Including Ill., Ind., Ky., Ohio, W. Va., Pa., and N. Y.)	109,500	108,500
Increase		1,000

Outstanding Performance Wherever Compressors are Used

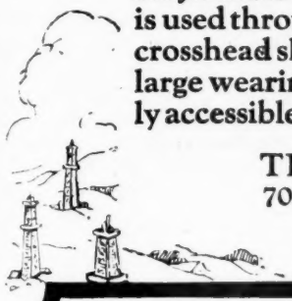
THE remarkable performance of Bessemer Compressors can be traced to outstanding features of engineering and construction.

On the type ten units the power cylinders are of the Bessemer two cycle type, while on the type FC units the power cylinders are of the four cycle type. Both engines deliver a consistent power output up to and above their full rated horsepower without strain or laboring.

Adjustable crosshead construction is used throughout; all bearings and crosshead shoes have exceptionally large wearing surfaces and are easily accessible and adjustable. Simplicity and strength are features of construction in each type of power plant.

The compressor cylinders are of the new Bessemer type which have the highest volumetric efficiency of any compressor cylinder built. The compressor valves are of the best grade spring steel and will stand up under continuous impact and high speeds.

The outstanding performance of Bessemer Type Ten and Type FC Compressors is due to their advanced design and wonderful construction. Wherever a Bessemer Compressor is operating, it's setting a performance record.



THE BESSEMER GAS ENGINE COMPANY

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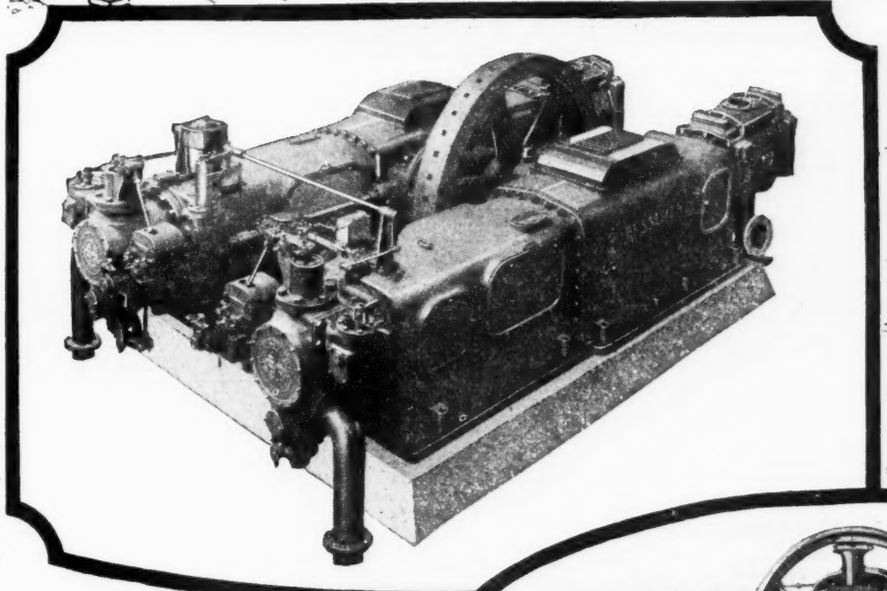
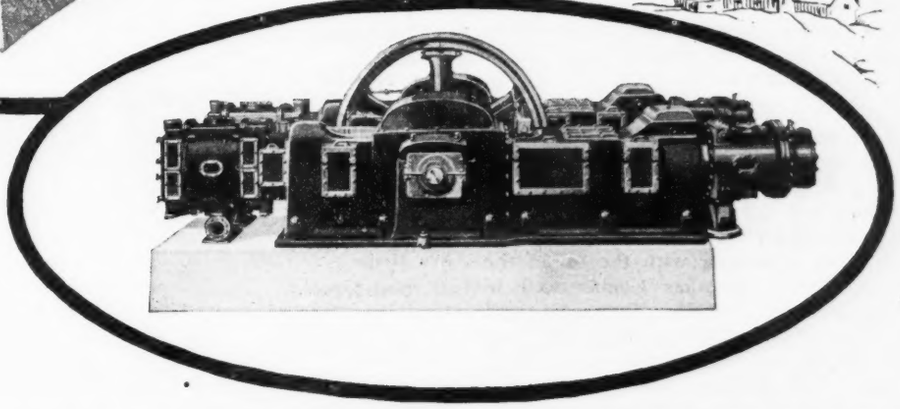


Bessemer Four Cycle Compressors have a remarkably simple valve assembly which assures high engine efficiency, low fuel consumption and trouble free service. They are ruggedly built to deliver years of uninterrupted service.



Bessemer Type Ten Two Cycle Compressors are the standard of the natural gasoline industry. Their running time is consistently 99% plus, and their maintenance almost nil.

BESSEMER COMPRESSORS

Braman Has Oklahoma's Biggest Well State's Production Increases

By A. F. Hinton
N. P. N. Staff Writer

TULSA, Aug. 21

OKLAHOMA production recorded another increase during the past week, going up 2,900 barrels, and at its present figure of 467,750 barrels daily, is higher than it has been at any time since the week ending April 10 of this year, when it was around 469,000 barrels. The state's crude output has increased during five of the six weeks just passed, and is now 14,730 barrels a day higher than it was July 10.

About 10,000 barrels a day of this increase is directly traceable to the Seminole pool, in the county of that name, as this field was making about 4,800 barrels six weeks ago, as compared with 14,640 barrels during the week just closed. Burbank also is up about 5,000 barrels now as compared to its production then, so that these two fields can be held responsible for the gain in output over the period.

During the past week, however, the Braman district was responsible for the state's continued upward movement in crude production, as that area jumped nearly 7000 barrels while almost all other fields in the state were declining or remaining practically stationary. Burbank and Seminole showed small gains during the week, but all other active fields tended downward, the net result for the state as a whole being the increase mentioned above.

Braman Has State's Biggest Well

THE large increase mentioned above as taking place in the Braman district may be laid directly at the door of the Comar Oil Co.'s No. 5 Priboth, which has taken from the Independent-Garland well in Seminole county the temporary distinction of being the state's largest producer at the moment. This well, which is located in the NEc NW of 21-29-1W, was duly chronicled in these columns last week as having topped the Wilcox sand series at 3365 feet, with the big pay from 3379 to 3384 feet, and starting off at around 350 barrels the first hour. Its present production is not quite so large as that initial flow would indicate, but it is doing fairly well, as its last 24-hour output was 6,372 barrels.

It is reported that the temperature of the crude from this well has been increasing, with the latest figure putting it at 92 degrees F., as compared with 86 degrees the day before. Ordinarily, this would indicate that there is a probability of water appearing with the oil in the near future. Another Comar well in this field, the No. 1 Day, in the NEc SE of 20-29-1W, which a week ago was making about 1000 barrels of oil daily, also in the Wilcox sand and the Siliceous lime, is now down to 90 barrels of oil and 60 barrels of water daily. Preparations are being made to put this well on compressed air in an effort to increase its production.

Mid-Continent Petroleum Corp. No. 1-A School Land, in the SEc SW of 16-29-1W, a diagonal northwest offset to the Comar's No. 5 Priboth, also was reported last week, as making 1700 barrels in the first 16½ hours at two feet in the big Wilcox pay topped at 3492 feet. This well was deepened a foot and a half during the past week, with no resulting increase in production, its output during the past 24 hours having been 1676 barrels. It was reported that oil from this well also was getting hotter, having gone up from 82 to 88 degrees F. after having been deepened.

South End Development

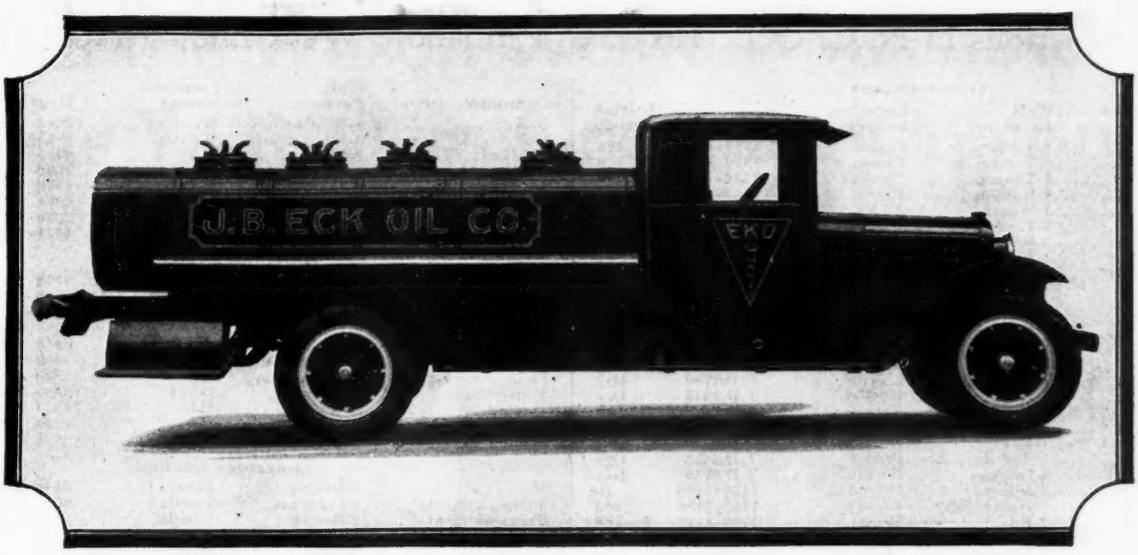
LATEST figures on the Independent Oil & Gas Co.—R. F. Garland No. 1 Grisso, in the SWc NE of 26-9-6, Seminole pool, show it to be producing 5590 barrels daily. This well has been making a remarkable record for sustained production, as it was one month old Aug. 17, and at that time had averaged almost exactly 5,000 barrels a day since completion, its total output at the end of the month having been 148,000 barrels. The 19 wells in the Seminole pool, which

(Continued to page 36)

Summary of Drilling Operations

(Compiled by Inland Oil Index)

Districts	Rigs	Drg.	Comp.	Dry	Prod.
WYOMING					
Big Muddy	2	3	0	00	000
Big Horn Basin	4	13	7	4	30
Carbon County	2	11	6	2	*1 600
Elk Basin	1	3	1	1	180
Fremont County	3	11	2	1	25
Grass Creek	1	3	0	0	000
Natrona County	3	6	1	1	000
Lance Creek	1	2	0	0	000
Osage	4	11	9	2	105
Rock River	1	3	0	0	000
Salt Creek	8	40	39	2	8,470
Teapot	15	1	0	0	000
Miscellaneous	16	55	8	7	25
Totals in Period	61	162	73	20	10,455
Totals Last Period	70	157	66	20	11,980
Difference	9	5	7	0	1,445
*2 gas wells.					
MONTANA					
Kevin-Sunburst	24	39	28	9	*13,450
Cat Creek	2	5	4	2	95
Miscellaneous	18	37	9	8	Gas
Totals in Period	44	81	41	19	13,545
Totals Last Period	36	77	37	23	8,505
Difference	8	4	4	4	5,040
*3 gas wells					
OTHER STATES					
North Dakota	1	2	2	1	Gas
South Dakota	2	4	0	0	000
Western Nebraska	1	3	0	0	000
Western Kansas	7	22	12	4	1,240
Idaho	1	3	1	1	Gas
Nevada	1	1	0	0	000
Utah	9	21	1	1	000
Colorado	10	33	8	6	250
Arizona	4	8	1	1	000
New Mexico	12	44	17	6	950
Totals in Period	48	141	42	20	2,440
Totals Last Period	52	141	51	27	4,620
Difference	6	0	9	7	2,180
*1 gas well					
RECAPITULATION					
Wyoming	61	162	73	20	10,455
Montana	44	81	41	19	13,545
Other States	48	141	42	20	2,440
Totals in Period	153	384	156	59	26,440
Totals Last Period	158	375	154	70	25,105
Difference	5	9	2	11	1,335



This 500 gallon 4 compartment semi-elliptical truck tank mounted on a Graham Bros. 156" WB chassis is in the service of the J. B. Eck Oil Co. of Sheboygan, Wis. It is fitted with 14" manholes, 6" fillers, ¾" vents, adjustable subsills, integral can box with side-swing doors, and a Lift-Lock bumper.

HEIL Tanks Advertise Your Name

THE first function of a Heil Tank is to carry and unload gasoline and fuel oil efficiently as well as economically. The second great service a Heil Tank gives is as an advertising medium for your name and product. Look at the trim lines of the truck tank shown above. Makes people stop, admire, and read.

Good-looking and well designed Heil truck tanks are really moving billboards. Thousands of people see them as they pass along the streets every day. Why not cash in on the possibilities of truck tank advertising? Ask Heil to show you how it can be done.

Write for Bulletin 157 on Heil standardized tanks.
Catalog 135 shows the complete Heil line.

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HEIL QUALITY 25th ANNIVERSARY

Completions in N. C. & E. Texas, & Panhandle Week Ending Aug. 21

Company	Well Farm	Location Survey	Depth	Initial Prod.
Archer County				
Marland	1-Turberville	Carson	1525–1532	125
Texas	1-Turberville	Carson	1536–1538	250
Gates et al	5-Thomas	Thomas	1152–1165	70
Pandem	2-Hudson	Harris	1135–1147	12
Staley-Wynn	1-Wilson	ATNC	T.D.1651	Dry
Pandem	1-Threet	Williams	T.D.1505	Dry
Cook et al	1-Browning	SP	T.D.1704	Dry
Gulf	1-Beasler	Blount	T.D.1602	Dry
Maer-Stanforth	1-Deskin	TEL	T.D. 914	Dry
Brown County				
Humble	3-Foster	Benson	T.D.1250	Dry
McKenna	7-Foster	Benson	T.D.1255	Dry
Roxana	1-King	King	T.D.1502	Dry
Valley	3-Teston	Curlong	T.D.1360	Dry
Keogh	1-Cook	Linville	T.D.2780	Dry
Anderson et al	1-Holt	BBB&C	T.D.2915	Dry
Mitchem et al	1-Graham	Brown	T.D.2190	Dry
Empire	1-Smith	H&TC	T.D.3520	Dry
Carter	1-Rake	H&TC	T.D.2715	Dry
Boyson et al	1-Boyson	Presler	T.D.2435	Dry
Moore	1-Layman	H&TC	T.D.2265	Dry
Humble	3-Kilgore	Delgado	1190–1200	10
McKenna	3-Foster	Benson	1153–1180	250
Humble	3-Kilgore	Benson	1157–1177	100
Cosden	1-Westerman	Mitchell	1231–1247	20
Hill-West	9-Newton	Mitchell	1203–1223	20
Mid-West Expl	10-Newton	Mitchell	1141–1162	30
Williamson et al	3-Keller	Mitchell	1137–1159	150
Callahan County				
Brown	1-Long	Anderson	1404–1421	80
Cranfill et al	1-Bond	Comal	1378–1382	90
Cranfill et al	2-Henderson	Comal	1390–1392	150
Tallett et al	1-Cutbirth	BBB&C	754– 764	15
French-Lewis	1-Ellis	Lavaco	T.D.1656	Dry
Carson County—Panhandle				
Marland	4-Burnett	I&GN	T.D.3125	225
Marland	6-Burnett	L&GN	3015–3045	85
Magnolia	2-Burnett	L&GN	T.D.2925	Dry
Cooke County				
Hoosier	1-Dennis	Moos	1260–1289	80
Coleman County				
Kirby	3-Dibrell	Hicks	1927–1940	10
Bartlett	1-Campbell	Cleveland	2220–2236	¼M
Burk-Greis	4-Dibrell	Hicks	T.D.2175	Dry
Crane County				
Marland	1-Durham	GCSD	T.D.2625	30
Crockett County				
Hughes	1-Powell	EI&R	2635–2654	70
Magnolia	1-Shannon	Sec 8	T.D.4372	Dry
Eastland County				
Gulf	6-Parsons	McLennan	1543–1545	175
Shinholt et al	1-Fox	McLennan	1570-T.D.	5M
Gulf	7-Kinnebrew	H&TC	3211–3232	2M
Gulf	2-Parsons	McLennan	1760–1771	30
Green	1-Richmond	DeMoss	2825	Dry
Falls County				
Gulf	1-Bargainer	Bosquez	T.D.2976	Dry
Glasscock County				
Cushing et al	1-Sparkman	WNW	T.D.3374	Dry
Grimes County				
Newblock	1-Fround	O'Connor	T.D.2876	Dry
Hall County—Panhandle				
Mid West	1-Bass	H&GN	T.D.2003	Dry
Howard County				
Transcontinental	1-Roberts	W&NW	T.D.3730	Dry
Lockhart	1-Chalk	WNW	T.D.1586	60
Magnolia	1-Chalk	WNW	T.D.1608	12
Marland	1-Chalk	WNW	T.D.1610	50
Hutchinson County—Panhandle				
Gulf	13-Dial	H&TC	2928–2949	160
McMan	1-Wheatley	H&TC	2844–2905	20
Phillips	2-Whittenburg	H&TC	2784–2706	2400
Phillips	2-Whittenburg	H&TC	2830–2870	85
Phillips	4-Whittenburg	H&TC	2710–2784	75
Empire	1-Johnson	H&TC	2883–2938	175
McCamey-Sherrin	2-Williams	Carpenter	2807–2840	400
McMan	1-Gray	M&C	2938–2942	1770
Gulf	4-Whittenburg	Whitley	2842–2892	2300
Gulf	3-Whittenburg	Whitley	2915–2935	900
Marland	2-Johnson	M&C	2915–2950	1170
Phillips	11-Whittenburg	M&C	2920–2952	100
Marland	3-Johnson	M&C	2959–3020	1000
Phillips	13-Whittenburg	M&C	2894–2890	125
Ryan et al	2-Johnson	Whitley	2966–2998	425
West Tex	4-Whittenburg	M&C	2921–2990	200
Hutchinson County				
Center Dome	1-Prichard	D&SE	2720–2775	75
Devonian	3-Whittenburg	Whitley	2890–2922	400
Hughes	1-Kingsland	D&SE	2791–2931	225
McMan	6-Holmes	Serkey	2968–2740	200
Phillips	3-Graham	Whitley	2954–2984	270
Phillips	2-Whittenburg	M&C	2900–2931	1000
Phillips	4-Whittenburg	M&C	2852–2882	350
White Eagle	1-Johnson	D&SE	2881–2911	160
Wextex	5-Whittenburg	M&C	2923–2967	500
Hughes	17-Kingsland	M&C	2918–2991	100
Skiatex	4-Kingsland	M&C	2720–2847	400
Limestone County				
Mess et al	1-Ressen	Varella	2843–2856	4400
Transcontinental	1-Cochrum	Varella	2836–2839	4100
Transcontinental	2-Ressen	Varella	2538–2707	3000
Godley et al	1-Ressen	Varella	2830–2842	1878
Transcontinental	3-Ressen	Varella	2830–2840	4000
Transcontinental	2-Ressen	Varella	2831–2841	2800
Milam County				
Texas	1-Esperson	Lunde	T.D.1956	Dry
Mitchell County				
Eastland	1-Handley	TP	T.D.3110	15
Calif	1-Miller	TP	T.D.3060	47
Magnolia	4-Adams	TP	T.D.3050	92
Atlantic	5-Womack	TP	T.D.3100	100
Cal-Mont	1-Adams	TP	T.D.3080	90
Cal-Mont	1-Pitfills	TP	2950–3070	140
Cal-Mont	5-Womack	TP	T.D.2087	127
Mitchell County				
Magnolia	5-Adams	TP	2933–3026	117
Magnolia	1-Coleman	H&TC	T.D.3880	Dry
Magnolia	1-Ramsey	TP	T.D.4220	Dry
Thompson et al	1-Hyman	SP	T.D.3098	Dry
Montague County				
F H & E	3-Howard	Chambliss	995–1001	55
Pure	1-Crowe	Chambliss	904– 925	80
Texas	14-Gist	Donoho	884– 940	6
Navarro County				
Simms	16-Remo	Harris	2952–2985	65
Reagan County				
Big Lake	17-Univ.	Univ.	T.D.2494	50M
Big Lake	4-Univ.	Univ.	2879–2891	40
Big Lake	75-Univ.	Univ.	2743–2881	700
Texon et al	4-Univ.	Univ.	2880–2948	189
Shackelford County				
Rosier-Pendleton	16-Cook	ET	1363–1368	100
Rosier-Pendleton	10-Cook	ET	1220–1363	—No est.
Rosier-Pendleton	1-Cook	ET	T.D.2078	Dry
Jones	1-Power	TP	T.D.1505	Dry
Stephens County				
Mid-Tex	6-Cunningham	TEL	1354–3180	90
Upton County				
Marland	8-Sanger	King	2184–2230	280
Republic	3-Baker	Groomes	T.D.1820	50
Texas	1-Union	H&TC	T.D.3098	Dry
Wilbarger County				
Bridwell et al	1-Waggoner	H&TC	T.D.2525	Dry
Humble	11-Waggoner	H&TC	2352–2363	51
Milham	9-Waggoner	H&TC	1894–1910	162
Phillips	3-Waggoner	H&TC	1908–1926	248
Humble	7-Waggoner	H&TC	1874–1891	100
Young County				
Magnolia	7-Little	Crawford	1273–1278	20
Pandem	5-Whitehead	TEL	861– 869	40
Roberts	10-Rogers	TEL	863– 875	60
Consolidated	1-Davis	Davis	T.D.3386	30
Reed et al	3-Greeg	TEL	T.D. 995	Dry
Jeffers	2-Leberman	TEL	T.D.1004	Dry
Camp	1-Nail	BS&F	T.D.1000	Dry

(Continued from page 34)

includes the area around the I. T. I. O. well in 24-9-6, as well as the Independent-Garland well, averaged 14,640 barrels a day during the past week, as compared with 14,415 barrels the preceding week.

In the Searight pool, also in Seminole county, the Carter Oil Co. No. 1 Grayson, in the SWc NW SW of 34-10-6, the field's most recent completion, is flowing 2855 barrels daily in sand from 4089 to 4095 feet. This compares with a production of 3804 barrels 10 days ago. Three other wells around this lease corner were producing 1812 barrels daily, they being the discovery well, F. J. Searight No. 1 Davis, in the SEc NE SE of 33-10-6, 86 barrels, the Mid-Continent Petroleum Corp. No. 1 Grayson, NWc SW SW of 34, 876 barrels, and Prairie Oil & Gas Co. No. 1 Grayson, in the NEc SE SE of 33, 850 barrels.

F. J. Searight is drilling in his No. 3 Davis, in the NWc NE SE of 33, a quarter-mile west and the same distance north of the discovery well. This well is now drilling below 4030 feet and was reported making about two million cubic feet of wet gas.

South of Seminole, a test that is being watched with considerable interest is the No. 1 Pulatka of the Superior Oil Corp. and the Gessel Drilling Co. located in the SEc NE of 31-8-6, about three miles east of Maud, Pottawatomie county, and about eight miles south of Seminole. This well is now reported drilling ahead at 4435 feet with a hole full of oil. It had the Hunton lime from 4370 to 4403 feet, then went into

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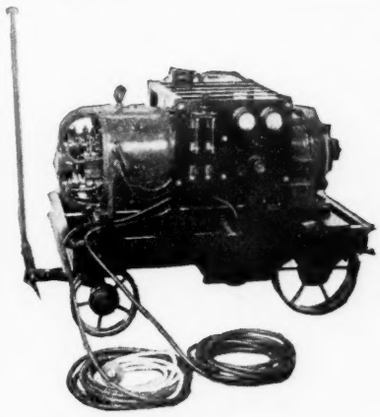
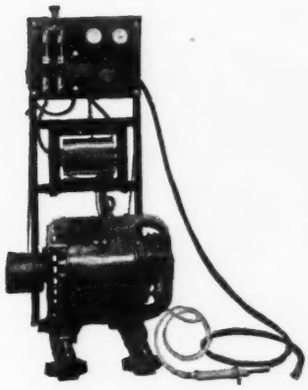
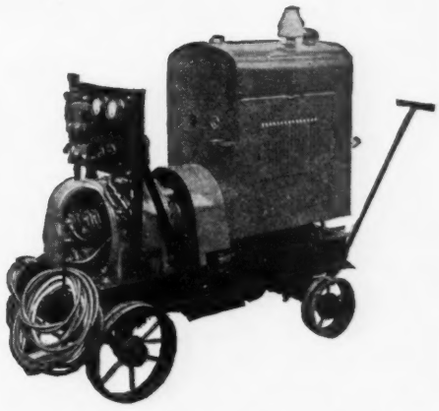


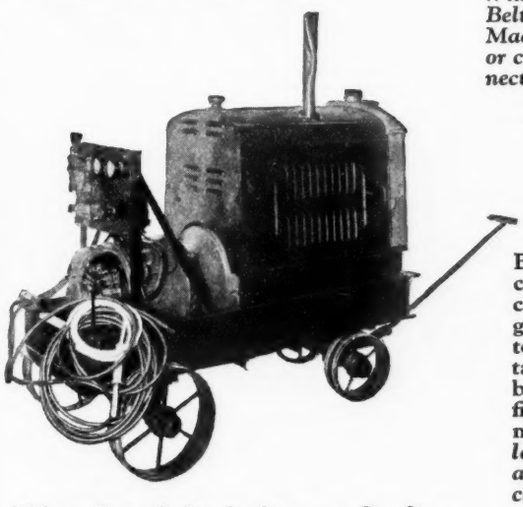
Wilson Type S Single-Operator Motor-Driven Electric Welding Machine. Designed for both production and repair work. Adapted for use wherever power is available. Capacity, 25 to 250 amperes.



Wilson Type S Single-Operator Belt-Driven Electric Welding Machine. Belt-driven from line or counter shaft or for direct connection to gasoline engine. Capacity, 25 to 250 amperes.



Wilson Type S Single-Operator Gasoline-Engine-Driven Electric Welding Machine. A complete, self-contained unit—may be easily moved and operated anywhere. Capacity, 25 to 200 amperes.



Wilson Type S Single-Operator Gasoline-Engine-Driven Electric Welding Machine, heavy duty type. Capacity, 25 to 250 amperes.

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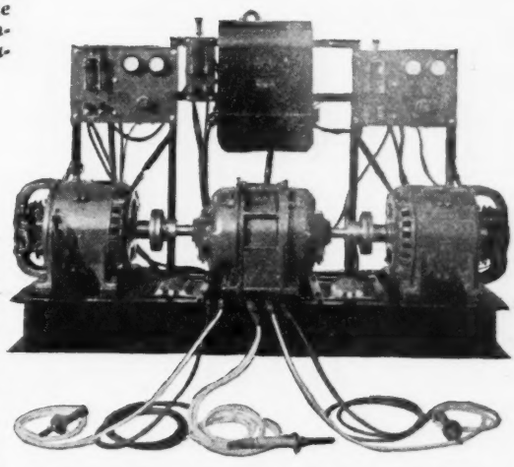
Every Wilson Type S machine has a simple, compact control panel; a *self-exciting* generator; an arc that is easy to strike and easy to maintain; a current adjustment by a simple turning of a field rheostat knob; a commutator that always shows *less temperature rise than any other part of the machine.* The welding current can be reduced to as low as 25 amperes for welding thin-gauge metals.



Wilson Type S Two-Operator Stationery Motor-Driven Electric Welding Machine, heavy duty type. Capacity, 25 to 500 amperes.

With its simple construction, close regulation, rugged strength—*superior engineering throughout*—the Wilson Type S has proved itself a *better welding machine.* **Its features—many of which are found in no other machine—make the Wilson Type S the choice for practically every kind of welding. And you can select the Wilson welding machine that meets your own operating conditions. Read descriptions above, and write today for full information and prices.**

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WILSON

WELDING MACHINES AND WELDING WIRE

Completions in Oklahoma and Kansas, Week Ending Aug. 21

OKLAHOMA

Caddo County

Company	Well No.	Location	Depth	Initial Prod.
Gladstone	2	NEc SW SE 31-6-9W	2100–2311	60

Carter County

Company	Well No.	Location	Depth	Initial Prod.
Gypsy	2	NWc SW NE 3-2-3W	2110–2154	650
Franklin-Prairie	2	SEc NE NW 3-2-3W	2130–2133	150
Iowa	2	SEc NE SE 7-2-2W	1698–1745	70
Roxana	1	NWc SE SE 7-2-2W	2540–2550	40
Humble	3	NWc SW SW 34-1-3W	2494–2501	31M
Humble	3	SWc NE 33-1-3W	T.D.3115 OWD	Dry
Magnolia	1	SWc NW NW 23-2-2W	T.D.1810	Dry
Baker-Strawn	12	NWc NE NW 22-3-2	T.D.4435	Dry
Wickenhiser	1	NEc SE NW 13-5-3W	T.D.5260	Dry

Comanche County

Company	Well No.	Location	Depth	Initial Prod.
Magnolia	3	SEc NE SW 30-2-9W	T.D.2380	Dry

Creek County

Company	Well No.	Location	Depth	Initial Prod.
Carpenter et al	1	SWc NW 10-17-10	1545–1554	20
Independent	2	SEc SW 19-17-10	2108–2130	50
Mid-Cont	2	NEc NW SW 24-17-10	1806–1839	20
Wilcox-Oswalt	2	NWc SE SW 1-16-11	2629–2631 OWD	45
Wilcox-Oswalt	4	SEc NW SW 1-16-11	2717–2720 OWD	50
Tibbens	1	SEc NW NW 30-15-9	1247–1271	20
Dillard et al	1	C NW NE 22-17-10	T.D.3269	Dry

Garfield County—Garber

Company	Well No.	Location	Depth	Initial Prod.
Sinclair	38	SEc NE NE 13-22-4	3078–3094 OWD	100
Sinclair	50	NEc SE NE 13-22-4	3595–3620	1200
Prairie	12	SWc SE SE 12-22-4	T.D.3730	Dry
Roxana	5	NEc NW 13-22-4	T.D.3825	Dry
Sinclair	6	NEc SW 13-22-4	T.D.3158 OWD	Dry

Hughes County

Company	Well No.	Location	Depth	Initial Prod.
Josey	2	NE SW NE 22-9-9	3348–3355	30M
Dixie	5	NWc NE NE 5-7-8	4214–4227	592
Magnolia	1	NWc SW NE 5-7-8	4185–4196	237

Jefferson County

Company	Well No.	Location	Depth	Initial Prod.
Humble	1	SW NE NE 19-7-5W	640– 644	8M
Humble	1	NEc SE NW 18-7-5W	T.D.2270	Dry

Kay County

Company	Well No.	Location	Depth	Initial Prod.
Comar Oil	9	NWc SW NW 21-29-1W	3406–3426	427
Ona-Carter	1	SEc SW 17-29-1E	2334–T.D. OWD	370
Ballentine et al	1	NEc NW 28-27-1E	3638–3650	20
Marland	2	SWc NE 1-26-2W	2946–2968	172
Marland	7	NWc SW NE 12-26-2W	2967–2985	211
Prairie	1	SWc NE 19-27-1W	1560–1570	4½M
Mid-Cont. et al	10	NE SW NE NE 33-25-1W	T.D.4332	Dry

Okfuskee County

Company	Well No.	Location	Depth	Initial Prod.
Phillips	3	NEc 10-12-11	2633–2652	75
Amarada	15	CWL NW NW 13-12-11	2564–2570	70
Cooper-Donnelly	1	NWc 7-13-10	T.D.3550	Dry
Champlin	3	CEL SE NW 15-12-11	T.D.3595	Dry

Okmulgee County

Company	Well No.	Location	Depth	Initial Prod.
Sheridan	1	SEc SW SW 34-16-11	2211–2238	2M
Moffitt-Slick	6	C SE 6-11-12	2465–2475 OWD	4½M
McCulloch	1	SWc 15-15-14	2242–2264	360
Selby	3	NWc SE NW 23-14-13	1750–1752	5M
Neb.-Okla	4	CNL NE NE 1-14-14	1027–1752	10
Clarion	7	NEc SW SW 22-14-14	1762–1783	8
Cuseck et al	4	CWL SW NE 29-13-14	1675–1693	25
U. S. Sinc	1	NEc SE SE 10-11-13	3091–3135	2M
Gray-Parafine	1	NWc NE 26-16-11	2832	Dry
Decius	2	SEc NE 17-11-12	T.D.2691 OWD	Dry
Simms	6	SEc NE 21-13-14	T.D.1980 OWD	Dry
Columbus	13	NEc SE NW 28-13-14	T.D.2556	Dry
Wheeler	2	NEc SE SW 1-11-13	T.D.1375	Dry

Osage County

Company	Well No.	Location	Depth	Initial Prod.
Keener	18	NW SW NE 15-29-10	1014–1021	2
Keener	19	NE SW NE 15-29-10	990–1016	15
Osage Dev	41	SEc NE SE NW 35-29-11	896– 931	5
Simmons	2	NWc 31-29-12	990–1022	12
Lewis	3	SW NE NE 30-25-8	2477–2487	370
Peters	6	NEc SE NE SW 28-24-10	1348–1368	10
American	22	SW NW SW NE 13-23-10	1788–1833	10
Skelly-Moore	4	SWc SE 1-22-9	2383–2398	5
Sterling	7	CEL SE 1-22-9	1945–1990	80
Tidal	19	SW NE SW 34-22-10	1884–1923	15
Mitchell	4	NE SW NW 7-21-9	495– 506	10
Okla. Nat.	714	SWc 17-21-11	1863–1865	9M
Tidal	8	NE SW SW 15-21-12	1298–1344	30
Pioneer	8	CSL N½ S½ NW 5-20-11	1744–1755	20
S. S. Home	3	SWc NW SW SW 11-20-11	2395–2405	30
Barnsdall	1	NEc SW 6-26-5E	T.D.3130	Dry
Oliphant	3	NE SW SE 19-25-8E	T.D.1131	Dry

Pawnee County

Company	Well No.	Location	Depth	Initial Prod.
Prairie	9	NEc NW 10-20-8	2866–2872	100

Payne County

Company	Well No.	Location	Depth	Initial Prod.
Prairie	1	SEc 14-19-4E	3631–3680 OWD	35

Rogers County

Company	Well No.	Location	Depth	Initial Prod.
Maxon	2	C SE SW 6-19-17	466– 479	2M

Seminole County

Company	Well No.	Location	Depth	Initial Prod.
Mid-Cont	1	NWc SW SW 34-10-6	4128–4148	892
Indep-Garland	1	SWc NE 26-9-6	4059–4074	2685
Shaffer	4	NWc NW NE 18-9-8	3297–3325	10.4M
Winona	1	SEc NW NE 18-9-8	3246–3267	100
Magnolia	2	SEc SW 32-8-8	4170–4191	1642
Dixie	2	NEc NW NE 6-7-8	4155–4166	2908
Homaokla	4	NEc SE NE 6-7-8	4112–4116	607

Stephens County

Company	Well No.	Location	Depth	Initial Prod.
Hoffer	1	NEc NW NW 35-2-9W	1841–1851	3½M
Farrett	1	SE NW SE 18-1-8W	1810–1841	12
Womack	1	SEc NW NE 29-2-9W	T.D.1124	3M
Brown-McAllister	1	SEc NE SW 28-1-8W	T.D.2375	Dry
Magnolia	2	SE SW SE NE 29-1-8W	T.D.2860	Dry
Magnolia	5	NEc NW SE 33-1-8W	T.D.2228	Dry

Tulsa County

Company	Well No.	Location	Depth	Initial Prod.
Savoy	2	SEc NW 7-16-14	1416–1419	5M
Gibbs	5	NEc SW NE 16-16-14	1792–1805	15
S. S. Home	1	NW SW SW NW 24-19-11	2240–2246	130
Jolly-Ogg	1	NEc SE SE 3-16-13	T.D.2180	Dry
Selby	1	SEc NE NE NE 5-16-13	T.D.1778	Dry

Wagoner County

Company	Well No.	Location	Depth	Initial Prod.
Pine	3	NWc NE SW 26-17-16E	T.D.1555	Dry
Mitchell	1	SEc 36-17-16	1545–1555	2.4M

KANSAS

Butler County

Company	Well No.	Location	Depth	Initial Prod.
Empire	16	C SW SE NE 35-27-4E	2548–2554	130
Phillips	1	SEc 17-28-6	2800–3045	10

Cowley County

Company	Well No.	Location	Depth	Initial Prod.
Marland	2	SWc SE SW 13-32-4	3018–3046	10

Greenwood County

Company	Well No.	Location	Depth	Initial Prod.
Sinclair	45	C S½ SW½ 20-22-10E	2266–2331	150
Empire	14	SWc NW SE 11-22-11	1807–1870	100
Empire	11	NEc SE NW 14-22-11	1876–1904	150
Mid-Cont	11	C SE SW 18-22-11	2062–2095	15
Empire	6	SWc SE SE 4-22-12	1793–1817	200
Fisher et al	5	C SW SW NW 4-22-12	1807–1810	10
Simmons et al	2	NEc SW NW 4-22-12	1801–1840	125
Simmons et al	5	NWc NE NE 9-22-12	1789–1827	200
Skelly	7	NEc SW NE 15-23-9	2279–2352	250
Skelly	4	NWc 15-23-9	2344–2392	200
Empire	3	NEc SE SW 29-23-10	2297–2334	25
Texas et al	3	SEc NW SE 8-23-11	1977–1997	40
Simmons et al	5	SWc NW SW 9-23-11	1958–2010	45
Darby et al	2	SEc NE NE 17-23-11	1972–2011	200
Haverhill	12	NWc NE NW NE 9-23-13	1589–1629	30
McGinnis et al	8	NWc SW SW 30-23-11	1813–1837	200
Empire	9	CEL SE NW NW 6-22-10	T.D.2392	Dry
White	1	NEc SW SE 13-22-11	T.D.2058	Dry
Emerald	1	NWc SE NW 23-23-9	T.D.2858	Dry
Manhattan et al	2	SEc NW NE 19-24-11	T.D.2218 OWD	Dry
Hiatt et al	1	SWc SE NW 27-26-9	T.D.2580	Dry

Lyon County

Company	Well No.	Location	Depth	Initial Prod.
Wilcox	1	NEc NW 33-17-11	T.D.2225	Dry
Double A	1	NWc NE 8-19-13	T.D.1858	Dry
Transcontinental	7	SWc NE NW 31-21-10	T.D.2219	Dry
Pryor et al	1	C NE SW 24-21-10	2566–2580	150
Transcontinental	5	NEc SE NW 31-21-10	2095–2146	70
Transcontinental	1	SWc NE 31-21-10	2082–2124	40
Sheedy et al	11	SEc SW SW 31-21-10	2256–2261	10

Russell County

Company	Well No.	Location	Depth	Initial Prod.
Valerius	19	SEc NW 17-12-15W	3042–3047	20

Sumner County

Company	Well No.	Location	Depth	Initial Prod.
Phillips	3	SWc NE SE 24-33-2E	T.D.3601	Dry

Woodson County

Company	Well No.	Location	Depth	Initial Prod.
Briniger et al	1	SEc NE SE 22-26-14E	1242–1285	25
McCullough et al	1	NEc SW 23-26-14	1237–1270	10
Peerless et al	1	NWc SE 23-26-14E	1219–1266	40
Peerless et al	5	NWc SE SW NE 23-26-14	1188–1295	300

shale, and swabbed about 20 barrels at 4423 feet in depth.

In the Seminole pool, Amerada Petroleum Corp. has been trying to complete its No. 1 Rentie, in the SEc SW NE of 23-9-6, which will probably be the next well in in this field. This well topped the Hunton lime at 3925 feet and at total depth of 3948 feet made 203 barrels in 16 hours, the oil showing gravity of 41.5 at 80 deg. F. temperature. It was then drilled on down to 3956 feet, where it made 256 barrels on a 24-hour gauge ending this morning, flowing by heads about once an hour.

In Pontotoc county, in the far "south end" across the Canadian river and northwest of Ada, the wildcat test of La Salle et al. is again flowing and is making about 55 barrels a day through a string of tubing with packer on bottom. This well is known as the No. 1 Copeland, and is located in the NEc SW of 28-5N-5E. It shows for better than 300 barrels originally, but stopped flowing on account of lack of gas.

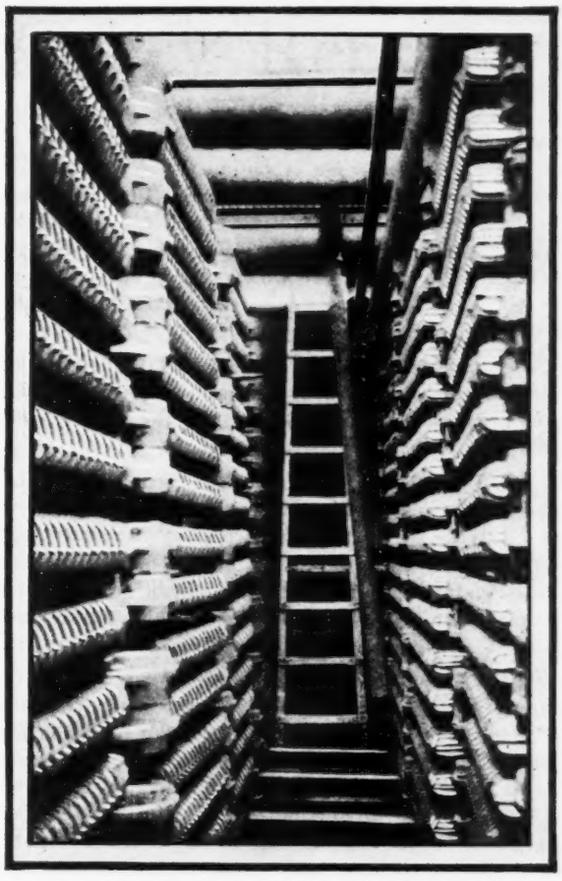
In the Wewoka deep sand area, Dixie Oil Co. completed its No. 6 M. Garner, in the NEc NW NE of 5-7-8. This well got the deep pay from 4103 to 4197 feet and made 1300 barrels of 38.5 gravity oil the first 24 hours. Magnolia Petroleum Co. was not so fortunate in its No. 3 L. B. Scott, in the SWc of 33-8-8, also in the Wewoka field, as this well had a hole full of water at 4207 feet and looks like a failure.

During the week ending Aug. 16, there were 44 wells in the Wewoka deep sand producing 27,135 barrels daily, a gain of 1455 barrels and four wells over the preceding week. The remainder of the Wewoka field, producing from shallower sands, had 141 wells making 4707

(Continued on page 40)

The leaders in the industry point the way

Two more of the world's largest refineries of over 70,000 barrels capacity a day have just completed installation of Sterling Oil Sections and Accessories



Condenser Box in Plant of Champlin Refining Co., Enid, Oklahoma

When the world's largest refineries adopt any product, it means that they have done so only after the most careful tests.

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Industry Watching Trend of Production

By Roger B. Stafford

N. P. N. Staff Writer

WILLIAM N. DAVIS, president of the Mid-Continent Oil & Gas Association, believes in locking the barn before the horse is stolen. He is optimistic of the condition of the oil industry,—but he also is cautious. In his summary of the economic position of petroleum, published a week ago by National Petroleum News, he fearlessly urged members of his association—the largest organization of producers in the industry—to exercise "caution and self restraint lest they destroy the present favorable situation."

Mr. Davis complimented the refiners for the caution and self restraint which they have exercised in their operations and urged they continue it in order that the industry may finish this year in a well balanced position.

While Mr. Davis does not bluntly say, "Drill fewer wells," or "Make less gasoline," the implication is evident that unrestrained activity by either producers or refiners might quickly result in weaker markets for crude oil and gasoline. His predictions in the past have been sound, and his warnings at times that appeared critical to him, have been justified.

But, as Mr. Davis points out, the gloomy sentiment that has gripped part of the industry springs from what may happen rather than from what has occurred. Active drilling operations in the Panhandle field and Nigger Creek pool in Texas, and the Seminole and Burbank pools in Oklahoma, indicate the domestic production will rise further this year. It also is possible that imports may be larger the second half of the year than in the first half. Imports from Mexico may be expected to hold up and the opening of the Andian National pipe line in Colombia opens a new source of supply abroad.

THE critical situation was pointed out by National Petroleum News in its Aug. 11 issue in a review of the crude oil and refinery statistics of the Bureau of Mines for June. It was estimated then that, should crude exports remain constant, the volume of crude needed to supply the domestic demand for gasoline alone in the last six months of 1926 and the crude exports would be approximately 382,500,000 barrels. But taking gasoline exports into consideration should they remain at the same level in the July-December period as in the January-June period, the total amount of crude for actual needs would be approximately 390,000,000 barrels for the six months. This figure, however, does not take into account additions to stocks of gasoline which usually are made in November and December, each year.

The president of one of the country's leading oil companies has taken exception to this estimate as being far too low. He asserts that reliable estimates of crude consumption in the second half year run as high as 470,000,000 barrels. With only 413,000,000 barrels of crude consumed in the first half year for all purposes, including conversion into gasoline of a volume in excess of the half year's needs for that gasoline, this figure would mean a total consumption of 883,000,000 barrels for the year. In 1925, crude consumption totaled only 808,647,000 barrels, of which only 740,004,000 barrels was run to stills.

Mr. Davis estimated that 2,357,000 barrels of crude daily will be needed to meet demand in the second half year, if the five-year ratio of second half-year gasoline consumption to first half-year consumption is maintained again this year. This volume of daily crude consumption would total 433,320,000 barrels for the half year or 846,320,000 barrels for the year. With production and imports of crude for the second half year estimated at 420,000,000 to 425,000,000 barrels, there would be drafts of 8,000,000 to 13,000,000 barrels on crude oil stocks to meet demand of refiners and other users. However, if refiners should curtail their runs to meet only actual needs the chances are that crude oil stocks would be increased by as much as 30,000,000 barrels. So large an addition to crude stocks is improbable because additions are always made late each year to stocks of gasoline—which means the running of more crude than was considered in the preceding hypothetical situation, and it is probable that the proportion of crude used for other purposes than refining—about 1 to 9—will remain as it has been in the last few years. But making all those allowances, it does not seem probable, with domestic production being pushed upward and increased imports imminent, that demand can be kept always ahead of supply.

Of course, the crude situation is much better than a year ago when domestic production was larger but, nevertheless, it is in the balance and, as Mr. Davis wisely warns, caution and restraint are needed.

(Continued from page 38)

barrels daily, a loss of 432 barrels during the week, with three wells abandoned.

Lincoln County Wildcats

NORTHERN Lincoln county came in for its share of attention during the past week, when two wildcat tests had interesting showings. One of these, Roxana Petroleum Corp. No. 1 F. W. Scott, in the SWc NE NW of 31-17-4, is reported to have about 800 feet of oil in the hole in a sand from 3155 to 3165 feet. At last reports, it was cleaning out 75 feet off bottom, and will be drilled in as soon as this work has been completed.

The other Lincoln county wildcat was the Deep Rock Oil & Refining Co. and the Peerless Oil & Gas Co. No. 1 Cook, in the SEc SW of 31-17-5, just six miles east of the Roxana well mentioned above. This well had the Bartlesville sand from 3727 to 3732 feet, and is making about five million feet of gas, part of which is coming from a gas sand passed through from 3635 to 3668 feet.

Drilling Operations in Oklahoma, Kansas and North Texas

	Aug. 21—Week Ending—					Aug. 14				
OKLAHOMA	Loc.	Rigs	Drg.	S.D.	Total	Loc.	Rigs	Drg.	S.D.	Total
Burbank	10	5	30	...	45	7	8	28	...	43
Other Osage	13	13	52	11	89	12	15	55	4	84
Bristow-Cushing	14	34	144	35	227	20	26	153	15	194
North Oklahoma	9	20	160	82	271	13	22	179	74	288
South Oklahoma	19	33	176	44	262	22	25	179	50	276
Muskogee	..	16	57	17	90	...	15	56	16	97
Okmulgee-Bristow	7	47	148	26	228	8	53	118	33	212
Tonkawa	2	1	23	1	27	2	1	14	1	28
Wewoka-Cromwell	18	22	195	22	257	14	17	192	19	242
Total Oklahoma	92	191	985	238	1506	98	180	964	212	1561
KANSAS	64	62	241	99	466	56	80	248	88	472
NORTH TEXAS										
Eastland County	..	8	80	5	93	...	7	82	10	99
Stephens County	..	6	22	14	42	...	6	28	11	45
Texas Panhandle	..	179	393	43	615	...	175	381	39	595
Mexia District	..	10	43	19	72	...	28	40	2	70
E. Texas Wildcats	..	6	6	14	26	...	4	18	9	31
W. Texas Wildcats	..	162	368	95	625	...	171	345	96	613
Wichita Falls	....	100	161	33	294	.....	106	166	38	364
Total N. Texas	....	471	1073	223	1767	.....	487	1060	205	1762
GRAND TOTAL	156	724	2299	560	3739	154	757	2172	505	3688

Practical Conservation Winning Out, Head of U. S. Survey Reports

WASHINGTON, Aug. 20

WHAT is regarded as a significant statement on present operating conditions in the oil fields of this country generally has been made in a special report to Secretary of the Interior Work by Dr. George Otis Smith, director of the U. S. Geological Survey.

"Practical conservation is winning out in the use of all the great stores of natural resources in the western country," is the way Dr. Smith concludes his report on a five-weeks' trip across western states on which he looked into mineral leasing activities on the public domain. While he studied both coal and petroleum his report mostly takes up oil.

He went on to say he found a more receptive attitude among industrial leaders toward new ideas and new ways of doing things, and that they were giving more support to their engineering departments.

Being chairman of the advisory sub-committee of the Federal Oil Conservation Board, and active in the study the board has made of the industry the past year and a half, there is speculation here as to how far the conclusion of this report on his trip may reflect the view of the oil board in its report on domestic petroleum supply and demand, which is about ready to be presented to President Coolidge.

On my recent five weeks' trip through the West, with visits to the Geological Survey's offices in the public land States, I gave most attention to the leasing activities now supervised by the Survey. I saw coal mining on Government leases in Montana and Wyoming and oil operations on Government lands in Montana and California.

Anyone who feels concern about the present status of the oil industry can find in certain oil fields abundant cause for "viewing with alarm" and in others gratifying reasons for an optimistic outlook. The economic errors of the past still persist in too many fields, while elsewhere the progress in technique is so rapid as to promise immediate betterment. The petroleum engineers representing the Department of the Interior in these oil fields thus have a large opportunity to aid in the spread of the best practices, and I was pleased to note that this influence is being exerted by our engineers.

Equally satisfactory too is the co-operative spirit existing between the Federal engineers and the State officials charged with the administration of the State laws relating to oil and gas. Such co-operation is absolutely essential, for measures aimed at insuring efficiency and safety in the control of oil and gas wells can not stop at any property lines separating the jurisdictions of Nation and State.

Over Drilling Sunburst

THE Kevin-Sunburst oil field, in northern Montana, is unfortunate in its present activity. The operators are finding oil at a time when it is not needed. My drive over the field showed new rigs being built and wells being brought in, although oil of this high grade is here selling at $1.05. The economic law of supply and demand as now enforced in Montana does not give the oil operator even a new dollar for an old, nor is there any assurance that in the future when oil is needed the supply will be at all adequate.

Montana from its geographic position, with long hauls to other markets, must depend upon its own market to furnish the chief demand. At present Montana's refinery capacity is only 21,000 barrels a day, but this one oil field is producing about 25,000 barrels a day and Montana's own consumptive demand is estimated at only about 14,000 barrels a day. Storage presents the only remedy for this disparity between supply and demand, and storage is expensive. The outlook therefore is not such as to warrant putting down more wells and yet the competitive drive is on and new wells are being brought in, whether or no.

At Shelby I had the privilege of talking with a dozen or more of the leading operators, and in the discussion there was little difference of opinion as to facts but many views as to how to help the situation. It was agreed that the production should be curtailed, but no one offered to stop pumping or even to stop drilling. Co-operative effort was not thought possible, and legislation to enforce relief measures was not wanted.

Interest Is Common

THE Kevin-Sunburst oil field, in well exhibited and freely acknowledged and yet the only hope seems to be in full and free discussion of their common trouble which may lead to some co-operative moves for relief. They all have a common interest, and no task seems more worthy of the local organization of oil operators than to discuss ways and means of conserving some of this oil that Montana will need so much more at some future time, especially because the oil will then be in demand and may be expected to command a price nearer its real value than the present rate of $1.05.

This field is not as far advanced as the older fields to the south in the adoption of the best development practice but an excellent spirit was shown in a discussion of a shut-off program, in which the local men and the Federal and State oil and gas officials participated. The moves necessary to safeguard the oil sands from water invasion will be taken, now that such a program has been fully determined upon, on both private and public lands.

In the California oil fields also there is more development activity than seems consistent with the present oil market. However, many of the larger companies with strong field organizations and adequate financial strength are conspicuously absent from this drilling activity, evidently being desirous of limiting rather than expanding production. These stronger companies also have considerable shut-in-production, a conservation measure that apparently is helping to stabilize conditions.

Advances in Field Practice

ANYONE who has visited some of the Valley fields in earlier years must be struck by the advances made there in many departments of field practice. The influence of improved engineering is seen not only in the wonderful progress made in drilling technique in attaining both speed and depth but also in the methods adopted to safeguard the oil sands from water invasion. Even more conspicuous is the attention given to gasoline extraction from natural gas.

Far too much dry gas and spent gas is even now allowed to go to waste by reason of lack of market or of storage capacity, but large capital outlay is everywhere being made to save the gasoline content of the gas flowing from the oil wells. And the importance of adopting new devices to cut down evaporation losses is now more keenly realized when it is so apparent that such losses are in the most valuable fraction of the crude oil. The influence of private and public research can be seen in the progressive attitude of most of the oil operators.

Signal Hill Conditions Shock

THE faith in a better day in the oil business that is awakened by this general search for new and better methods and especially the more sympathetic

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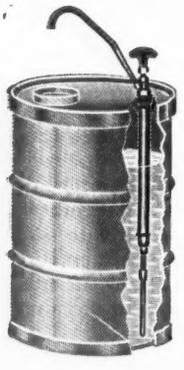

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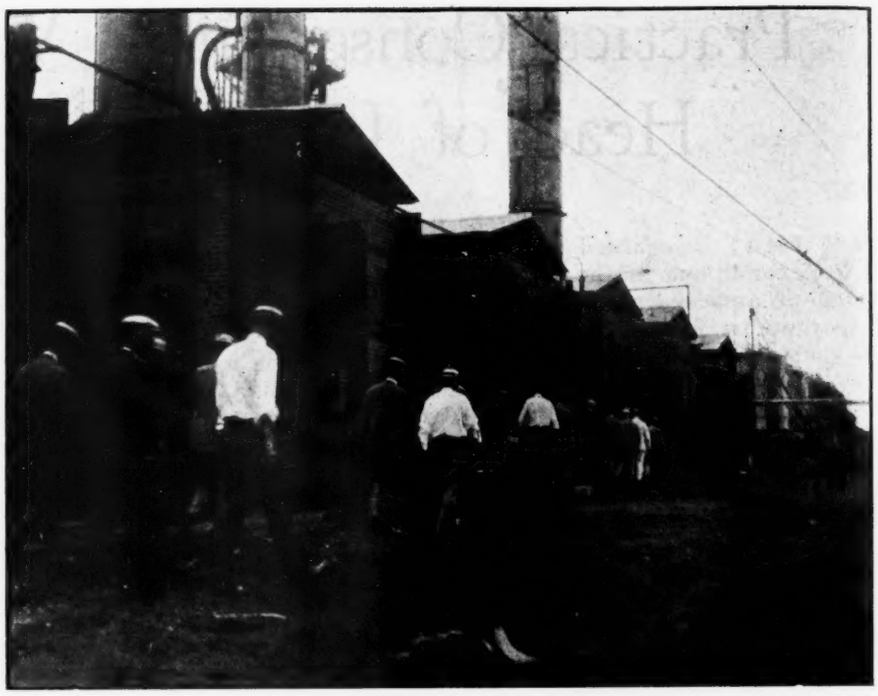

Battery of cracking stills, Doherty process, at the Empire refinery, Ponca City, being inspected by the technologists and refinery superintendents of the Western Petroleum Refiners Association when they visited the plant last month.

attitude of practical men toward conservation measures receives a shock, however, whenever a pool like Signal Hill is visited. Here appears all the waste of oil and gas, and of capital and labor, incident to the scramble for production—a discouraging example of bad practices due to the desire for immediate returns regardless of the future.

Great diversity of ownership is the mortal enemy of conservation in the oil and gas fields. The outlook is the more discouraging just now when the town-lot operators have entered upon another race in search of a lower sand, thus again multiplying capital expenditure by taking several dollars to do what one might do. If such pools only are observed, calamity howling seems amply justified.

However, another Los Angeles Basin field, within sight of Signal Hill, affords a most practical exposition of true conservation. Here far-sighted management has enlisted technical skill and given full support to every method of bettering production conditions. The Dominguez field is everything that Signal Hill and other town-lot pools are not. At first glance instead of a forest of derricks huddled as close as they can stand, a carefully laid out group of wells is noticed, 610 feet apart, and this wide spacing of itself represents a large saving in capital outlay.

The area of this field as now outlined is about 700 acres, but the number of wells is only 70, belonging to five or six companies. Thirty of these wells are flowing, 20 are on the pump, and 20 are being operated with the gas lift; the average production is about 300 barrels a day, although the field is three years old next month.

Use Gas For Lifting

THE use of natural gas, under pressure, for lifting the oil is the progressive move in the operation of the Dominguez field that furnishes the most encouragement to anyone interested in the economics of oil production. In every respect the innovation appears successful. The gasoline content, two gallons to the thousand feet, is taken from the gas as it comes from the wells and the remaining 20 pound pressure is then "boosted" to 260 pounds and the dry gas distributed through a manifold to a battery of wells.

About 1100 cubic feet of gas is thus circulated to the barrel of oil lifted, which with the 1200 feet of gas already with the oil gives a gas-oil ratio below the natural ratio of 2850 feet observed in this field. The economy of the new method, wherever applicable, is evident when it is learned that the investment cost of equipping a well for the gas lift is less than half that required for pumping, that the lifting cost is only a third or less of the cost of pumping, and that the gas lift is a continuous operation with no shutdowns for repairs.

Even more interesting are the preparations practically completed for operating a "five-point" group of wells by gas pressure. Gas under a pressure of 550 to 600 pounds will be introduced into the sand through the central well, and by this restoration of pressure the oil will be made to flow from the other four wells. This experiment is probably by now in operation at two places in this field, and the results will be watched for by the oil fraternity generally. The two

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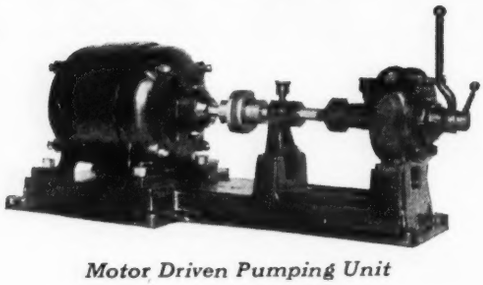

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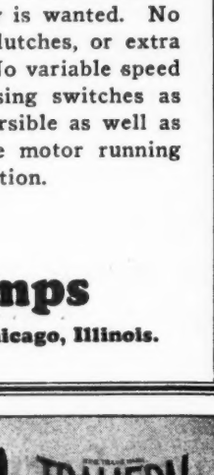

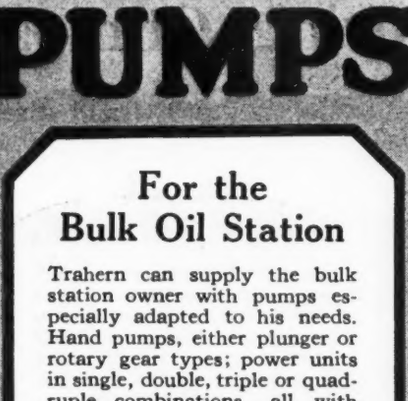

companies that are making this progressive experiment are to be commended for their willingness to back up their technical men.

Dominguez Practices Conservation

THE careful and conservative development of this Dominguez field, in which fortunately only a few companies share control, has already shown results in the savings in capital and in operating costs, in the maintained production, and in the opportunity afforded for improving the operating methods. Continued production seems insured by the measures taken to obtain a large percentage of recovery and the precautions taken to develop at first only the upper 400 feet of the sand the limit now agreed upon in the field.

Here is an example of very practical conservation through the co-operation of oil companies that are seeking long-continued production rather than quick profits. I venture the prediction that their reward will be both maximum recovery of oil and a goodly measure of profits, and thus benefit will accrue to both the consuming public and the producing operators.

If I were to select from my observations and impressions on this inspection trip what appears to me to have most significance, it would be the more receptive attitude of the industrial leaders toward new ideas and new ways of doing things. In academic circles this is called the research attitude, but in the field it is more the determined effort to lower costs. The adoption of loading machinery is cutting down the cost of coal to unexpected levels, the expansion of the power systems is likewise lowering the cost of electricity and broadening the fields of its usefulness, and the executives who control the destinies of the larger oil companies are giving more enthusiastic support to their engineering staffs—and all this means to me that practical conservation is winning out in the use of all the great stores of natural resources in the western country.

Harwood Bros. Inc. Rebuilding

RICHMOND, Aug. 19.—Harwood Bros. Inc., whose plant and stock valued at around $100,000 was destroyed by fire July 9, have adjusted their insurance and awarded contract for a new building on the same site. Construction has begun and the company expects to be in its new warehouse by Dec. 1. The business was interrupted only two or three days by the fire. Temporary warehouses were leased at 1323 East Cary St. for the paint department and 1105 East Cary for miscellaneous storage, and the firm is using the basement floor and annex of its old warehouse for oil storage.

BRADFORD, PA.—The Kane, Pa. casinghead plant of The Sloan & Zook Co., has been turned into an absorption plant using the Newton process, according to C. R. Kerr, sales manager.

Tank Fires Due to Lightning and Other Causes—Methods of Prevention

By Frank A. Epps
Manager, Fire Protection Department, Tide Water Oil Co.

THE American Petroleum Institute appointed a committee to study the tank fire record of the United States. That committee found that lightning was the greatest fire cause, 55 per cent of all tank fires being due to this phenomenon. The records demonstrated, however, that all-steel gas-tight tanks are practically immune from ignition from this cause. It is therefore evident that when this type of construction is used practically all danger from the greatest fire cause is eliminated.

I believe that if each of you makes mental analysis of the tank fires you are familiar with, you will appreciate that a wooden, or non-gas tight tank roof is almost invariably a preliminary condition to oil tank ignition by lightning.

There are several theories regarding the ignition of wooden roofed tanks. Undoubtedly there are a number of "direct hits." Experiments made by the General Electric Co. indicate that a tall object will only draw the direct hits that would otherwise fall within a zone whose radius would be four times the height of the object.

Tank Doesn't Draw Bolt

THUS, a tank 30 feet high will probably receive discharges that would otherwise strike the earth within a circle concentric with the tank but 120 feet in radius. The tank of itself, even though highly conductive to electricity does not draw direct hits from lightning to any appreciable extent.

The evidence at hand indicates that a large proportion of tank fires attributed to lightning are caused in an indirect manner. It is commonly accepted that a column of gas vapor ascends from such tanks at least several hundred feet into the atmosphere. Lightning when flashing through this vapor zone is presumed to cause a flash-back to the tank.

I think you will agree that it is highly improbable that a tank would be ignited in this manner. In the first place, the vapors from crude oil and gasoline are from one and one-half to three times heavier than air, and in consequence it is not probable that they would rise to any extent. Secondly, a thunder storm not accompanied by more or less wind is unusual. In fact the production of wind is part of the storm itself. Any wind or breeze would rapidly dissipate the column of gases which might be hovering above the tank. Thirdly, even assuming the gases would rise, it is not probable that a mixture rich enough to propagate flame would extend several hundred feet into the atmosphere. But even so, the thunder cloud is usually about 2000 feet above the earth, and this being true of what account would be a column of vapor a few hundred feet high.

It is much more likely that the lightning strikes the ground in the vicinity of the tank, and the heavy vapors trailing along the ground in a rich enough mixture, flash-back to the tank itself. But here again the wind and breeze serve to dissipate and diffuse the vapors quickly. To my mind this refutes the theory of flash-back from the ground—except in exceptional cases where distinct gas pockets are known to exist.

Ignited by Induced Charge

IN all probability ignition takes place through what is known as an "induced charge." You have often heard of a man being knocked unconscious, or being shocked by lightning as he stood under a tree which was struck. You can hardly fail to appreciate that not the faintest part of the bolt of lightning which struck that tree touched the man. He was shocked by an "induced charge."

We know that positive electricity attracts negative and vice versa. A cloud overhead, charged with negative will destroy the electrical equilibrium on the earth beneath by attracting charges of positive electricity to the tops of promontories on the earth. The man standing under the tree had a heavy positive charge drawn to the top of his head. When the cloud discharged to the tree the attraction upward for the electricity in the man's head no longer existed, and it immediately rushed back to earth to restore equilibrium. The man was thereby shocked by the current passing through his body.

On a wooden roofed tank covered with sheet iron, the respective sheets of same not being well bonded together, the same thing happens only the electricity in rushing back to the ground jumps over a joint between two sheets not bound together, and produces a spark. This spark is produced right where a rich mixture of gas exists and it need only be a few hundredths of an inch long to fire the contents of the tank. This is, I believe, the true explanation for the ignition of so many wooden roofed tanks.

At first thought, it is remarkable how few steel roofed tanks are ignited by lightning. Occasionally, we hear of one. Certainly the steel roofed tank is not less subject to being struck by a direct hit than a wooden roofed tank. Undoubtedly lightning actually strikes a great many steel roofed tanks and we hear nothing about it. The discharge is immediately conducted to ground by the great conductivity of the steel roof and the shell of the tank. If the tank has no holes in it, that is, if the different hatches are closed and the vent is properly protected with a fire screen, an all steel tank is really a very safe proposition. Experimentally demonstrated it is impossible for a spark to be produced within such a container by any external electrical manifestation.

I am confident that every steel roofed tank fire caused by lightning can be traced directly back to an open gauge hatch, open manhole, defective vent screen or other non-gas-tight condition in which vapor was ignited outside and flashed back to the interior of the tank. I do not believe it is possible to set fire to an all steel gas-tight tank by lightning and I actually know of one case where lightning was seen to strike such a tank and no ignition resulted therefrom. To prevent tank fires from lightning I am satisfied that it is only necessary to provide gas-tight all-steel construction and supply reasonable maintenance.

Another cause of tank fires is exposure to other fires, but again let

THE frequency with which lightning has caused oil tank fires lately, should cause every oil man, whether producer, refiner or marketer, to maintain a rigid inspection of his storage tanks to keep down gas leaks which are recognized as the most dangerous hazards.

In the accompanying article which is part of a bulletin distributed among the members of the Association of Fire Marshals of the National Petroleum Association, Mr. Epps points out the conditions leading to lightning and other fires in oil tanks and the precautions that should be exercised to prevent them. The part of the bulletin that is omitted, covers some of the findings of the American Petroleum Institute committee which investigated oil fires over a period of ten years. Mr. Epps was a member of that committee, whose report was published in full in National Petroleum News last year.

What Mr. Epps says in this article merits the serious consideration of every person that stores oil. The season of thunder storms with their lightning dangers, is still far from over this year.—EDITOR.

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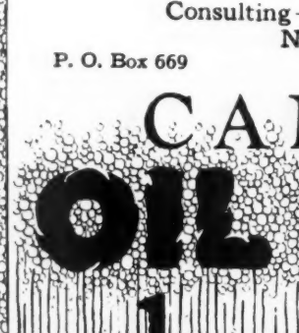

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me point out that here also the wooden roof is the primary evil. The gas-tight, steel roofed tank will withstand very severe conditions of prolonged exposure. Instances can be cited where such tanks have been surrounded for hours by blazing seas of oil, and except for the loss of paint and ditsillation of some oil, there has been no damage. Under such conditions a gas-tight tank will act like a large still, and the vapors produced will burn from the vents like huge torches.

Static electricity is occasionally given as the cause of oil tank ignition. A few years ago the Atlantic Refining Co. performed some interesting experiments on the production of static charges caused by streams of oil falling into a tank. It was demonstrated that a spray of falling oil under certain conditions, could produce extraordinary electrical discharges —sparks several feet long. This is a hazard, however, which may be removed by merely submerging all connections which discharge oil into the tank. The over-shot connection is a serious offender as regards evaporation loss besides being a fire hazard. There is no particular reason for its existence and all connections of this type should be corrected.

A very unusual case of static was called to my attention last winter. A certain large oil company was engaging in the process of steaming out a tank. It was a steel roofed 55,000-barrel tank with steel supporting members. A 1½-inch steam line had been discharging into the tank for about three-quarters of an hour when an explosion occurred, blowing off the roof of the tank and igniting the non-gas-tight tank next to it, about 10 feet away. It is of interest to know that sufficient gas remained in the 55,000 barrel tank after it had been steamed for three-quarters of an hour to permit the fire to burn for three minutes. The adjoining tank contained gasoline and was extinguished with the foam system.

Cause of the Fire

WHAT is of great interest, however, is the cause of the fire. Subsequent experiments in an empty tank proved that the steam jet unquestionably generated a great deal of electricity. A corona discharge was observed all around a similar jet in a darkened tank. Luminescence appeared at tips of fingers of individuals approaching near the jet and from objects pushed within the zone of the steam discharge. It is of interest to know that Lord Armstrong many years ago, developed an electro-static machine which consisted merely of a row of spikes which acted as a collector, and a steam jet. With this device Lord Armstrong was able to draw electric sparks from 5 to 6 feet long.

Just what condition obtained which caused the ignition of the 55,000-barrel tank referred to, is not known. It is possible that the steam jet discharged against an insulated upright roof support, or it is also possible that a miniature thunderstorm was caused within

the tank by the steam jet, the rapid condensation of the steam and formation of drops of water being analogous to conditions which develop in a thunder shower. The extreme rarity of such fires is proof positive that the hazard is small. Of course, it is evident that the steam hose should be properly grounded and that the steam should not be blown directly against any supporting members of the tank roof. Beyond this, there appear to be no further precautions that should be taken, although I would be interested in having this point discussed later on.

It is remarkable how few tank fires are caused directly by carelessness. Only once in a great while do we hear of a tank fire being caused by the match or smoking hazard. Occasionally gross carelessness with welding torches is the fire cause. In one instance, that I am familiar with, an employe cut into an overhead run-down line with a welding torch about 200 feet away from the run-down tank. Fire flashed back through the pipe and that ended that tank.

One classification of tank fires in particular has been of considerable interest to me during the last year. Because of lack of evidence it seems proper to classify these fires as of unknown cause. It is possible that some manifestation of static may be the cause in certain cases, but in most of these cases nothing that we know about static and the conditions under which it is produced, would apply. I believe that spontaneous ignition is the answer, at least occasionally. We all know that in tanks containing cracked distillates, or crudes of high sulphur content, there is a considerable formation of sulphur deposit on the under side of the tank roofs.

I have had some samples of this material analyzed and have found it to contain free sulphur, organic sulfides, iron sulfide and iron oxide. It is definitely known that iron sulfide when freshly formed is pyrophoric, that is, it will greedily absorb oxygen until it becomes heated to the point of incandescence. We know that the gases given off from cracked distillates and high sulfur crudes contain hydrogen sulfide and organic sulfides. It is probable that these gases react with the bare iron, or iron rust incrustation on the inside of the tank to the extent of producing under certain conditions a considerable amount of iron sulfide. It is then supposed that this compound absorbs oxygen and reaches a glowing temperature, at which temperature it may burst into flame and ignite the explosive vapors in the tank. The fact remains that tanks are set afire now and then for no reason whatever except that which might be explained by the information just presented.

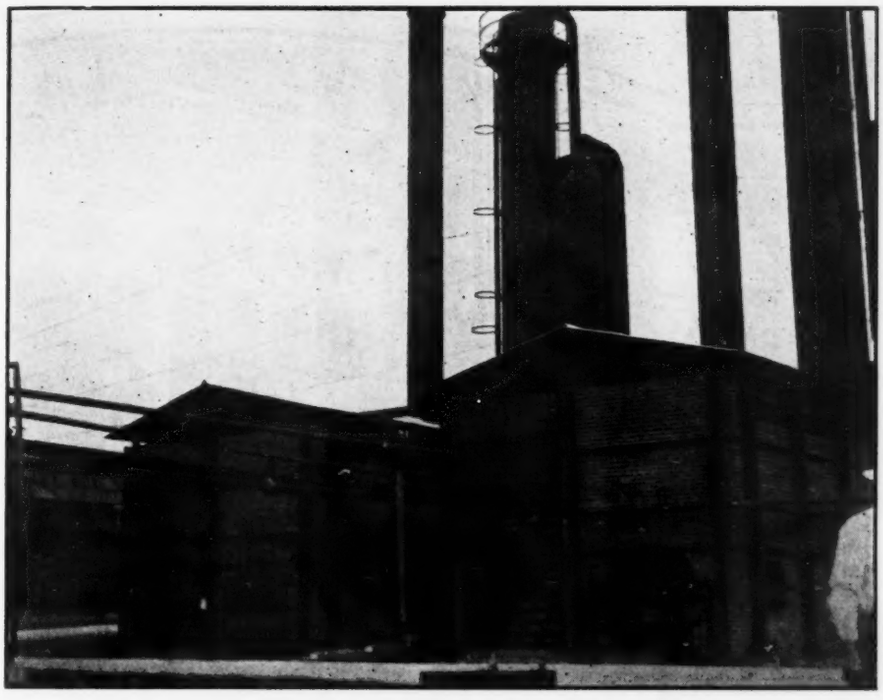
Naturally, you are interested in knowing what can be done to prevent the occurrence of this spontaneus ignition. I will honestly say that I do not know that it can be effectively prevented. It appears to be one of the hazards of the oil business. Fortunately, it does not happen often. The only remedy I know of is regular cleaning scraping, and painting of the interior of tank roofs and structural members inside of tanks where this formation occurs.

There is one detail of tank construction that has a close bearing on fire prevention. I wonder how many of us realize that vent screens as usually installed and maintained are quite ineffective as flame arrestors. Unless a systematic method of inspection of vent screens is pursued, it is probable that a large percentage of the vent screens at any location will be found to be defective, that is clogged or corroded through. In some locations, particularly on tanks containing sour distillates, I have found that it is necessary to renew the vent screens as often as once a month. A monthly inspection should be maintained on the vent screens in every tank and where the gases coming from certain grades of oil are particularly corrosive, this inspection should be made at least once every two weeks.

Metal vent screens will arrest flame only by reason of their ability to conduct the heat away rapidly to adjacent solid metal parts thereby preventing the formation of ignition temperature on the other side of the wire screening. If the distance from the central part of the wire screen to solid metal is too great, a single thickness of gauze will not serve, but a double or triple thickness is required. Beyond certain dimensions, even a triple thickness of wire screening is unsatisfactory. All of this was demonstrated by the Underwriters Laboratories of Chicago in a far reaching investigation made by them in 1919 in conjunction with the E. I. Du Pont De Nemours Co.

According to my interpretation of their results, in order to provide enough venting area and still have the screen dimensions suitable, it is necessary that a number of 2-inch diameter screens be provided or that the wire gauze screen be clamped between a grill work of heavy metal and that the ports in the grill work should not exceed the area of a 2-inch pipe. Single sheets of wire gauze 6 to 8 inches in diameter as will be found on many old tanks today are inadequate as flame arrestors.

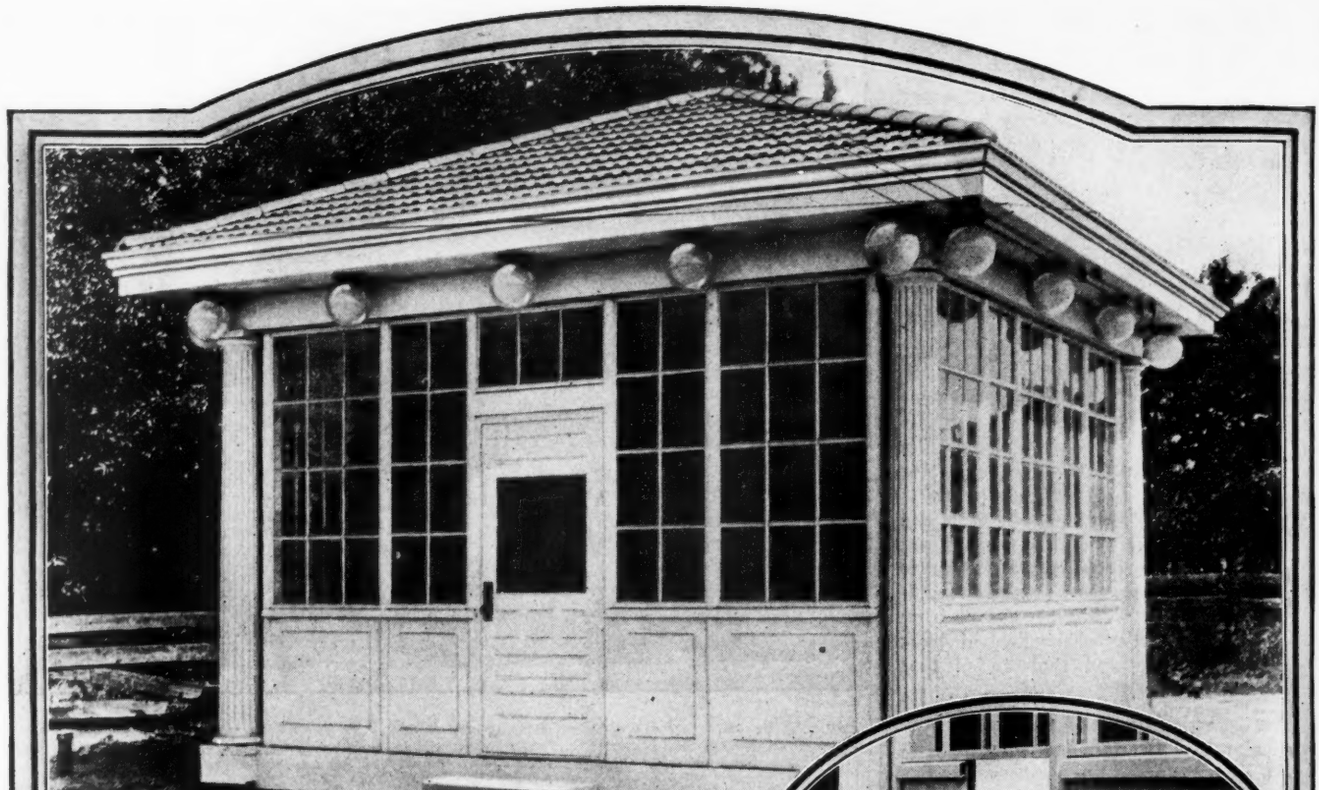
The prevention of oil tank ignition requires the strictest attention to the elimination of gas leaks. The direct saving in evaporation loss more than pays for all trouble we are put to in this connection. A most important part of our work as fire marshals is constant attention to tank roofs, to their maintenance, and to the upkeep of hatches and vents.



Empire pipe stills with welded return bends, Ponca City plant. Empire technologists believe the welded return bend can be cut off when tubes need cleaning, and welded on again more economically than threaded return bends can be unscrewed and replaced.

Tide Water Associated Men in New Merger

LOS ANGELES, Aug. 23.—Tide Water-Associated Oil Corp. is interested in the merger of the Julian Petroleum Corp. and the Marine Oil Co. into the California-Eastern Corp. The new corporation has assets valued in excess or $31,500,000. Tide Water-Associated Oil interests are reported to have supplied more than $6,000,000 to consummate the merger. Three of its directors have seats on the board of the new company.



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Hurdle District Wells, Though Small, Mark Profitable Development

By Paul Wagner
N P N Staff Writer

HOUSTON, Aug. 21.

SMALL per well average yields at above-sea-level depths in the Hurdle district of Upton and Crane counties promise operating profits because of the stability of semi-settled production.

Analysis of operating results to August 15, last, including all producing wells, indicates that the field is giving up roughly 56 per cent of the combined initial yields of all oil completions.

Only four of the 43 producing wells completed in the Crane-Upton county territory flowed 600 barrels, or more, initial production; and one of these is disintinguished from other wells in the Hurdle district because of its being located about 12 miles northwest of production at above-sea-level depths, where it found the sandy lime pay 106 feet below sea level.

With the exception of the four wells mentioned, completions in the Hurdle district range in their initial production generally from 40 to 150 barrels daily, with occasional exceptions good for 200 to 300 barrels daily. Some of the wells come in for as little as 10 to 25 barrels daily, initial production.

Drilling Cost Reasonable

THE fact that wells can be drilled and put on production in the Hurdle district for an average of not more than $12,000 has made the development of the Upton-Crane area attractive to the companies now operating there extensively.

Nearly a hundred wells are being put down in the territory, the total number accounting for active locations, rigs up, drilling tests and wells at the point of completion. A few of these tests are wildcat operations in search of new pools in the Crane and Upton county areas, about 10 are in the vicinity of the Church & Fields discovery well on University land, 18 miles north of the west end of the Hurdle district proper, and in the Gulf's McElroy development, roughly six miles south of the University well in Crane county. The remainder of the wells completed, or under way, are on the northwest-southwest trending structure which is more definitely termed the Hurdle district proper and which extends a distance of about eight miles back into Upton county from the Len Taylor well of the Independent Oil & Gas Co., on the Crane-Upton boundary.

Dixie Well Holds Up

JUST east of the Crane-Upton boundary, on the Ed. S. Hughes tract, the best well of the Hurdle district is the No. 2 of the Dixie Oil Co., Inc., which has produced 1800 barrels daily, or more, since its completion July 4, last, for 3000 barrels, initial production. It and two wells of the Marland Oil Co. of Texas, on Sanger and Burleson acreage, constitute the three completions in the Hurdle district proper which got into the "big yield" column by flowing 3000, 1200 and 850 barrels, initial production, respectively.

Few of the other wells in the Hurdle district proper have ever flowed in excess of 150 barrels daily, the higher yields, with some exceptions, having been generally brought about by swabbing practice.

As frequently pointed out in this periodical, the theory has been fairly generally accepted in the West Texas territory that small wells are to be expected around the rim of the old Permian salt basin where the top of the lime formation, found below the base of the salt, yields up its oil accumulation at above-sea-level depths.

The outstanding example of large production in the salt basin has been the Big Lake field, in southwestern Reagan county, about 40 miles east of the Hurdle district proper, where big wells are the rule at producing depths in the lime below-sea-level. The question now is whether the McElroy development of the Gulf Production Co., inside its 27-section block north of the Hurdle district proper, or the University development of the Magnolia Petroleum Co., and others, still farther north in Crane county, will either of them prove to be the forerunner of another Big Lake.

Future To Answer Questions

THERE is also the question, soon to be indicated by operating results, whether the Dixie's big well on the Hughes will prove the possibility of get-

Tabloid Well Record of Hurdle, Texas, District

Company-Well	Elev.	Top Lime, Sea-Level Datum	Total Depth	Feet In Lime	Date Comp.	I.P., Bbls.	Prod. 8-15-26
Republic Production Co. (Purchased from Johnson & McCamey)							
M. L. Baker 1	2613	496 plus	2271	188	9-30-25	55	
M. L. Baker 2	2618	528 plus	2252	110	6- 5-26	25	96
M. L. Baker 3	2670	485 plus	2281			15	
Dixie Oil Co., Inc. (Standard of Indiana)							
Ed S. Hughes 1	2501	520 plus	2093	112	6- 1-26	45	1849
Ed S. Hughes 2	2505	485 plus	2049	29	7- 4-26	3000	
A. S. Burleson 1	2619	469 plus	2230	142	3- 7-26	25	22
A. S. Burleson 2	2624	484 plus	2230	190	4-15-26	10	
A. S. Burleson 3	2675	493 plus	2234	49	5-23-26	80	56
A. S. Burleson 4			2260				
A. S. Burleson 5	2609	444 plus	2182	92	7-10-26	40	51
A. S. Burleson 6			2148	152	8- 6-26	25	
Gulf Production Co.							
M. L. Baker 1	2610	545 plus	2224	159	6-23-26	30	12
Sanger 1	3119	435 plus	2742 (oil Show)		Drilling Deeper		
Roxana Petroleum Corp.							
Estep 1			2207	72	8-10-26	300	300
Sun Oil Company							
Burleson 1			2160	169	8- 6-26	10	10
Burleson 2			2140	100	8- 8-26	50	50
Marland Oil Co. of Texas							
Sanger 1	2608	458 plus	2230	80	3-20-26	70	24
Sanger 2	2616	456 plus	2245	85	5- 2-26	35	5
Sanger 3	2606	456 plus	2252	82	7- 5-26	40	15
Sanger 4	2601	476 plus	2225	100	7- 1-26	40	15
Sanger 5	2589	474 plus	2215	100	7- 5-26	50	20
Sanger 6	2670	520 plus	2228	78	7-11-26	1200	390
Sanger 7	2684	489 plus	2280	85	7-20-26	100	40
Sanger 8	2662	502 plus	2230		8- 2-26	225	135
A. S. Burleson 1	2616	531 plus	2231	146	4- 8-26	10	S.D.
A. S. Burleson 2	2615	475 plus	2230	90	5- 5-26	40	10
A. S. Burleson 3	2595	550 plus	2140	95	5- 2-26	190	45
A. S. Burleson 4	2608	478 plus	225	90	7- 1-26	25	13
A. S. Burleson 5	2592	507 plus	2146	61	7- 6-26	210	110
A. S. Burleson 6	2588	498 plus	2145	55	7- 7-26	150	100
A. S. Burleson 7	2589	504 plus	2130	45	7-10-26	300	270
A. S. Burleson 8	2602		2152		7-10-26	850	322
A. S. Burleson A-1	2580	490 plus	2176	86	7-10-26	50	25
Benton Land Co. 1	2405	325 plus	2363	193	5- 2-26	65	12
Durham 1 (Crane Co.)	2515	278 plus	2667	432			15
Hughes B-1 (Crane)	2493	318 plus	2373	198	7- 7-26	65	15
Hughes C-1 (Crane)	2564	274 plus	2335	140	7-10-26	150	134
Zoch-Hughes (Crane)	2594	254 plus	2574	234	4-23-26	70	30
The Texas Co.							
Union Land 1-F (Crane)	3435	390 plus	3016	992	(Will make pumper)		
Independent Oil & Gas Co.							
Len Taylor 1 (Crane)	2481	451 plus	2045	15	2-24-26	135	118
Gulf Production Co.							
McElroy (Crane)	2589	106 minus	2750	89	7-21-26	600	501
Magnolia Petroleum Co. (Church & Fields discovery well)							
University (Crane)	2597	316 minus	3040	125	4-19-26	190	56
Totals						8600	4866

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ting large production more often at above-sea-level depths.

Another interesting point to be developed attaches to the finding of oil in the F-1 Union Land test of The Texas Co., southwest of the Independent's Taylor well in Crane county, where a small pumper is about to be completed nearly 1000 feet in the lime horizon. This well is southwest of other production in the Hurdle district proper about a mile and a half. With two exceptions, earlier wells produced at depths of less than 200 feet in the lime.

A mile and a half south of the Hurdle district discovery in sec. 8, Grooms survey, the Union Land Company test of the Kirby Petroleum Co. (sec. 51) had six feet of oil saturated lime at the approximate level of The Texas Co.'s well, roughly 800 feet below the first pay producing level. The Kirby test did not make a well, however, and it was abandoned after deepening to total depth of 3375 feet.

It is also significant that The Texas Co.'s well, for the first time, got Hurdle district oil below the sulphur water flow found at greater depth than the first producing horizon elsewhere in the area. Future drilling will be required to show how extensive production may be expected to be in the inferred second pay of the district as indicated by The Texas Co.'s F-1 well.

Nigger Creek Producing Nearly 15,000 Bbls.

HOUSTON, Aug. 21.—Twelve producing wells in the Nigger Creek field, west of Mexia, in Limestone county, August 20, were producing nearly 15,000 barrels daily.

Only three of the dozen producing wells completed in the field had shown salt water, viz., the Transcontinental Oil Co.'s Rosson discovery well, which is now good for 290 barrels daily; its No. 1 Cochrum, now back on production for 275 barrels daily; and the Murchison & Fain No. 1 Rosson well, which is showing three per cent water with its daily yield of 600 barrels.

Transcontinental's No. 1 Atkins, which was completed within the last week for about 2500 barrels initial production, had stopped flowing after declining to 710 barrels daily. It was expected to put the well back on production after working over.

The No. 1 Cogdell well of the Transcontinental, completed at about the usual depth of 2850 feet, is swabbing 1050 barrels daily and No. 3 Cogdell came in the middle of the week flowing about 1000 barrels daily by heads.

Other Transcontinental wells in the Nigger Creek field were making roundly as follows: No. 2 Rosson, 1420 barrels daily; No. 3 Rosson, 2800 barrels; A-2 Rosson, 1800 barrels.

Atlantic Oil Producing Co.'s No. 1 Rosson was good for 675 barrels, August 20; Godley Oil Co., & Seay & Cranfill No. 1 Rosson, 1690 barrels; Moss & Keeling No. 1 Rosson, 3250 barrels.

Consider Further Simplification In Steel Barrel Industry

By Special Correspondent

WASHINGTON, Aug. 23

WITH a view to the further simplification of practice in respect of drums and barrels for use in shipping petroleum products and other liquids, the division of simplified practice of the department of commerce has sent out a questionnaire to manufacturers and users asking information as to the uses to which drums and barrels are put. The object is to find out what containers are used for lubricants.

This simplification work has been going on since 1922 with a view to reducing costs and making competition between articles of the same class keener by having standards that will permit of exact comparison. In 1924 the survey, along many lines, had reached such a stage that the conferees appointed to speak for all industries agreed to recommend the elimination of many types and sizes of various articles, so as to reduce the investment of both manufacturer and distributor in little used types and sizes. Steel barrels and drums were in the list.

After a survey of what had been the result in 1925 of the agreement to limit the sizes and types of barrels and drums had been made the next proposition was as to what further changes should be made.

The present inquiry as to further eliminations was made necessary by the fact that the information in hand would not afford a basis for further eliminations. Representatives of manufacturers and users of steel barrels and drums met in Washington in May to consider further eliminations. They re-affirmed the action taken more than a year before at which they reduced the number of varieties and sizes of barrels from 66 to 24.

The motion to affirm action taken before then was based on a survey of actual production in 1925 which indicated that 84 per cent of 4,955,842 barrels and drums produced were in the sizes adopted as a result of the simplified practice conferences.

The committee in charge of the matter unanimously recommended that a survey be conducted by the using organizations as well as the manufacturers in the ensuing six months with a view to determining the uses to which the barrels and drums were put.

The barrels and drums considered in connection with the simplified practice recommendation included standard light shipping drums, standard I. C. C. drums, friction light cover drums, bolted cover light drums and bilge barrels. No containers made of material if less than 19 gauge were considered by the committee in connection with its review of the recommendation. The committee consisted of M. F. Crass, Grasselli Chemical Co., Cleveland, E. M. Lyons, Tiona Refining Co. representing the National Petroleum Association; W. F. Pitt, traffic committee of the Paint Manufacturers Association of the United States; E. J. Allen American Steel Package Co., Defiance, O.; C. T. Draper, Draper Manufacturing Co., Steel Barrel Manufacturers Association, Cleveland and G. A. Moore, Detroit Range, Boiler & Steel Barrel Co., Detroit, Mich.

No attempt has ever been made by the Department of Commerce to make figures on the saving possible by reason of the elimination of types and sizes. However, inasmuch as the survey taken of what had been done in 1924 showed a production of nearly 5,000,000 drums and barrels, with an average price running probably well over $3, the expenditure for drums, it is believed, runs well over $15,000,000 a year and possibly much greater than that.

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Oil Pays Almost Enough In Tolls To Keep Up Panama Canal

By Special Correspondent

WASHINGTON, Aug. 21

A PICTURE of the Panama canal as a supply valve for the oil industry has been drawn by G. R. Hopkins, petroleum economist of the Bureau of Mines, department of commerce. The huge increase in the shipment of crude and refined products through the canal from California to the east coast, is regarded by him as one of the most remarkable developments in the history of American marine transportation.

In one year, he pointed out, the traffic assumed such proportions that when 56,000,000 barrels of crude and refined were sent eastward, the tolls amounted to $7,000,000, which was almost enough to pay for the upkeep of the waterway.

His view is that the canal is the greatest stabilizer, from the point of view of the consumer, there is in the industry. If there is an excess on the Pacific coast, he says, oil is shipped eastward, and vice versa.

Prior to 1922 the bulk of the movement was westward. During the period 1915-1921, inclusive, 565,000 barrels of crude oil and 1,288,000 barrels of refined oils were shipped from Atlantic to Pacific ports in the United States, as compared with 170,000 barrels of crude and 1,370,000 barrels of refined oils which moved in the reverse direction.

As a direct result of the rapid rise of production in California due to the discovery of the prolific Los Angeles basin fields, the decline in the Mexican fields, and the presence of superfluous tonnage, the trend in the movement of tankers was reversed and westward shipments fell off so that at the present time only an occasional cargo of oil breaks the monotony of the procession of tankers in ballast entering San Pedro and San Francisco. The report of Mr. Hopkins goes on to say:

"The record year for shipments of crude petroleum from California to eastern ports in the United States was 1923, when 52,350,000 barrels passed through the canal. This was about 25 times the 1922 figure and, excluding the last three months of 1922, was 125 times the shipments of all the preceding months back to the opening of the canal. A total of 1704 tank ships passed through the canal during 1923, having a net tonnage of 10,079,921 long tons, from which $8,967,647.41 in tolls was collected and which carried 9,625,714 long tons of cargo, 95 per cent of which was for United States intercoastal trade. This was 33.8 per cent of the transits, 40.7 per cent of the total net tonnage, 39.1 per cent of the tolls, and 38.3 per cent of the cargo for the year 1923.

"Coincident with the production decline in California, shipments fell off so that the total for 1924 of 39,300,000 barrels of crude petroleum was a decrease from 1923 of 25 per cent. This decline was continued during 1925 when a decrease of 63 per cent was registered. The explanation of this last decrease, without a corresponding decrease in crude production, lies in the growth in number of refined oil shipments, the total cargo of which rose from 5,315,000 barrels in 1924 to 14,032,000 barrels in 1925.

"In other words, California is now refining the bulk of the crude petroleum it formerly shipped, most of it to provide for its increasing Pacific coast demands.

"The greater part of the cargoes up to the present time have been carried by tankers of about 7500 tons, carrying about 10,000 tons of cargo. However, the transporting companies soon found that for a long haul a large vessel could operate at a cost but slightly above that for a smaller vessel, which would make the transportation per barrel much cheaper for the larger vessel. The result has been the supplanting of some of the smaller vessels by larger ones of 14,000 tons and capable of carrying nearly 150,000 barrels of oil.

"There is a wide difference between the speed of tankers, but, in general, the round trip from San Pedro to New York, a distance of nearly 10,000 miles, is made in 45 days.

"Much of the decline in California shipments has been compensated by increased use of the Gulf route rather than overland pipe-line route in delivering Mid-Continent oil to eastern seaboard refineries. Movement over the latter route, while probably capable of some expansion, has not increased materially in the last few years. This was due in the main to its relative inflexibility as compared to water transportation. On the other hand, the Gulf route, although dependent on pipe lines over half the distance, is growing in importance. The discovery of such fields as Powell and Wortham has forced the development of pipe lines to the Gulf, which, when supplemented by that part of the tanker fleet made available by the decline in California's fields, has caused a greatly increased use of this route. This statement is substantiated by the rise of 60 per cent in two years of the volume of crude oil transported. This increase was also true of refined-oil shipments."

Panhandle District Output Passes 100,000-Barrel Day Mark

TULSA, Aug. 21.

DURING the week ended today, the Texas Panhandle district averaged 107,005 barrels daily, the highest figure it has ever attained, and the first time it has passed the 100,000 barrels figure. This output was obtained from 366 wells, and represents a gain of 9818 barrels and 48 wells over the record of the preceding week.

Inasmuch as the district is supposed to be in a semi-shut-down condition owing to congestion of pipe line and storage facilities, it is believed that it could be producing much more even than its present large output if it were possible to push each well to its maximum output as soon as possible. In other words, if all wells now drilling were to be rushed to completion, instead of being shut down on top of the pay as is now planned by many companies, and all wells now producing were held up to their maximum production with all restrictions off, it seems certain that another 40,000 or 50,000 barrels could be produced daily in the near future. As it is, the large number of new wells added to the list this week indicates that the shut down has not materialized as strongly as was expected two weeks ago.

Rumors are current that the Texas Railroad Commission has noted a large number of violations of its rule against no open storage in the Panhandle, and is preparing to take steps against offending operators, with large fines in prospect.

Panhandle production by counties during the past week was as follows:

County	Daily Av. Prodn.	Number of Wells
Hutchinson	98,915	292
Gray	4,008	13
Carson	3,779	53
Wheeler	273	7
Potter	30	1
Total	107,005	366

Among recent Panhandle completions, the biggest well was the McMan Oil & Gas Co. No. 1 Martin Gray, in the NEc SE NE of section 21, block Y. This well got the pay from 2938 to 2942 feet, where it produced 1770 barrels the first 24 hours. It was then deepened to 2943 feet, or one foot deeper, and made about 7000 barrels in the ensuing 24 hours.

Marland Oil Co. No. 5-A Whittenburg, in the Whitley survey, Hutchinson county, is making 5100 barrels in sand from 2957 to 3004 feet. Skelly Oil Co. No. 1 Johnson, in the SEc NW of section 20, block Y, is flowing 100 barrels an hour in pay from 2980 to 3000 feet. The same company's No. 4 on this lease, in section 20, is making 35 barrels an hour while drilling ahead at 2935 feet after getting the pay at 2924 feet. Empire Gas & Fuel Co. No. 1-B Johnson, in the NEc NW SW of section 21, block Y, is flowing 22 barrels an hour in pay from 2862 to 2950 feet.

"Wax Queen" Launches Own Company

Miss G. Srager

NEW YORK, Aug. 21.—Miss G. Srager, for a number of years active in the petroleum trade in New York, has organized the Chatham Petroleum Co. and Aug. 16th started in business on her own account, with offices at 29 Beaver St. She will conduct a general domestic and export business, specializing in paraffin waxes and lubricating oils.

Ten years ago Miss Srager joined the sales force of the paraffin wax department of the Union Petroleum Co. and within a few years became manager of the department in the New York office. When the Union Petroleum was taken over by the Sinclair Consolidated Oil Corp. she remained with Sinclair as manager of the New York wax department. In June, 1924, she resigned to organize a sales and export office in New York for the Tiona Petroleum Co., of Philadelphia. Her experience in the wax business the past few years and her success in judging the market led her to be known as the "wax queen" to many in the trade.

"No, I did not pound the sidewalks with a sample case," Miss Srager wrote in answer to a question from National Petroleum News as to how she started selling oil. "They would have taken me for a magazine solicitor and that would not have done at all. You see, in the first place, circumstances beyond my control forced me to wear skirts instead of the conventional business habiliments—trousers. However, once I got by the important office boy I was all right. The 'boss' never phased me. I started my selling first by sending general letters through the mail, and then followed them by telephone and personal calls.

"Several times during the war, when I sent my card in to the purchasing agents, I would be followed out by some man, who would ask, 'Say, little girl are you looking for a job? I have one for you. I used to grin and say I was looking for orders instead."

MILAN, MO.—A new boiler has recently been installed by the Home Oil Co. at its blending plant here, according to N. A. Mewmaw, member of the firm.

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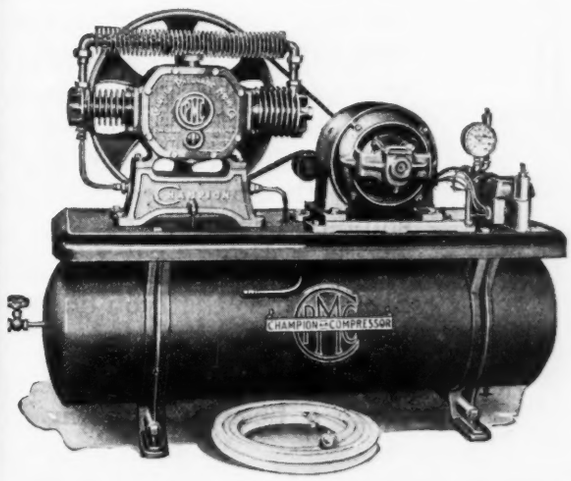

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Win Prizes From Standard of N. Y.

NEW YORK.—The winners in the $2500 prize contest held recently by the Standard Oil Co. of New York were announced Aug. 16. In all, there were 79 winners of prizes ranging from $1000 down to $5.

These winners represented the pick from thousands of replies received in the contest which was open to all motorists. It consisted of answering five questions pertaining to the care of a motor and the service which a motorist expects from a service station. The great percentage of answers showed a surprisingly wide mechanical knowledge on the part of the average car owner. A number of women competed, and not a few of them won prizes.

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Railroad Must Refund To S. O. New Jersey

By Special Correspondent

WASHINGTON, Aug. 23.—As an ending to one phase of its fighting with the railroads in North Carolina, the Atlantic Coast Line and other railroads will have to refund to the Standard of New Jersey on 70 carloads of gasoline shipped from its distributing station at Wilmington to Kernersville, Hookerton and Raeford, between May 5, 1922 and Sept. 8, 1923.

The railroads will have to pay because the agent of the Atlantic Coast Line refused to allow the gasoline to move over routes that would take it out of the state and then back again. Instead, he forced the Standard to ship over routes wholly within North Carolina and pay the higher rates applicable over those routes. The Standard took the matter to the Interstate Commerce Commission and that body decided that the railroads had violated the law.

In another phase of the fight the Standard whipped the railroads in the courts. They claimed that, because the petroleum products distributed from Wilmington had come to that point from outside the state, chiefly by boat, it would have to pay the higher rates charged on oil from the outside into the state. The courts decided against them, saying that the interstate rates did not apply unless the Standard knew exactly where it would send the oil when it was stopped at Wilmington, which of course no distributor of oil could do.

The railroads tried to settle the bill caused by the refusal but they offered to pay the difference on the stipulation that the Standard would say it claimed the benefit of the interstate rates because the gasoline had come into Wilmington by water and the Standard considered it in interstate commerce. The railroads also asked the Standard to assent to the proposition that the railroads had a right, legally, to refuse to allow the shipments to be made on the interstate rates.

Stipulations of that sort probably would not have been looked at by the courts, because railroads and shippers cannot agree about rates, but the Standard preferred to have the questions of law settled by competent tribunals, with the result that it whipped the railroads on both phases of the controversy. It got the benefit of the lower rates in both instances.

A considerable part of the history of the fight was contained in the material placed before the Interstate Commerce Commission but that body said most of the matter discussed was immaterial because the issue was whether the Atlantic Coast Line had a right to refuse the shipments unless they were routed over rails wholly within North Carolina. The regulating body said it had not and that it and its partners in the joint routes would have to refund 3 or 4 cents per 100 pounds.

The Holmes-Manley *Cracking* Process

Ease of regulation and positive control permit operation with few men.

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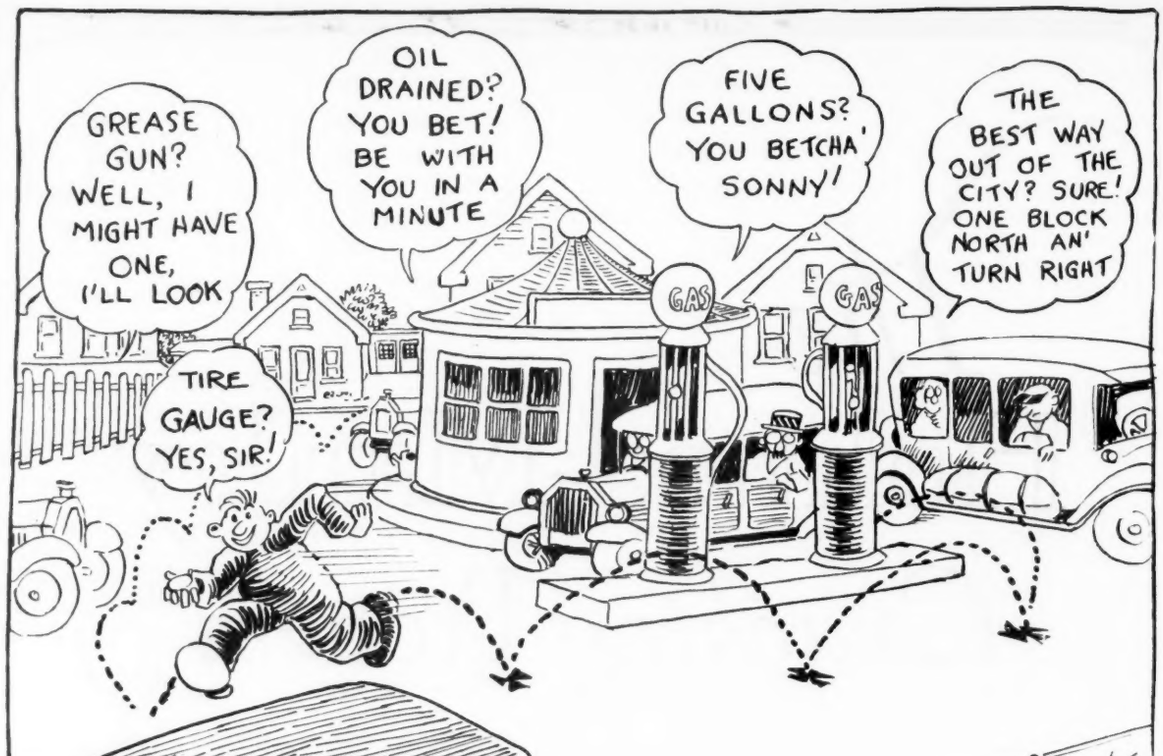
GREASE GUN? WELL, I MIGHT HAVE ONE, I'LL LOOK
OIL DRAINED? YOU BET! BE WITH YOU IN A MINUTE
FIVE GALLONS? YOU BETCHA' SONNY!
THE BEST WAY OUT OF THE CITY? SURE! ONE BLOCK NORTH AN' TURN RIGHT
TIRE GAUGE? YES, SIR!
GAS
GAS
SEDGWICK

THE MEXICAN JUMPING BEAN HAS NOTHING ON OUR HERO ON A BUSY DAY

Rest Room Entrances In Plain View

SOUTH HAVEN, MICH.—Rest rooms in service stations should be in plain view of customers when they drive in to get gasoline, in the opinion of A. D. Dubuisson, president of the Wolverine Service Stations, with headquarters here.

Although additional expense was involved Mr. Dubuisson has arranged his stations so that the door marked "Ladies" and the door marked "Men" are both in plain view of the drive. This was done to obviate the need for his customers to ask embarrassing questions of station attendants. Incidentally these rooms are tastefully furnished. There are tables and chairs and rugs on the floors, and pictures on the walls. They are literally rest rooms.

The ladies' room is, of course, a little more elaborate than the men's. Besides standard toilet room equipment such as wash basin, hot and cold water, mirror, soap and towels, these Wolverine places are equipped with dressing table accessories; individual packages of face powder, small vials of toilet water and other items of feminine comfort not often dispensed at oil stations.

This particular service feature at Wolverine stations is probably more important than in most towns the size of South Haven and Hartford, because of the tourist trade. At towns along the east coast of Lake Michigan tourist patronage is a real factor in a year's business. South Haven is on the paved highway, the one best known route from Chicago to the summer resort country in Michigan, of which Saugatuck is about the middle.

The accepted mode of travel from Chicago into this region in summer is by automobile, whether the traveler goes on pleasure or business. It is a pleasant drive and therefore a popular one but it is a full day's journey in good weather from Chicago to the resort country, and it can not be free from all of the discomforts of travel.

Many of the motorists along this road in summer are "week enders." In other words, they travel this road often. They acquire their habits of purchasing gasoline along the way just as they do at home. The station that gets a tourist's patronage once is likely to get it again several times during the summer. Thus a comfortable, well-appointed service station can build up a consistent patronage among more or less transient motorists.

With these delicate matters of service in view, Mr. Dubuisson believes he has made friends with a highly desirable class of patronage; the commercial traveler, the summer resort week-ender and the consistent pleasure seeking motorists who make Chicago their headquarters. As far as the patronage of the typical tourist is concerned, the motorist who travels aimlessly and may be served once by one oil station and never again, Mr. Dubuisson thinks he gets his share of that business also. The wandering tourist selects his service station for convenience as a rule.

Unusual Accident Caused by Doe

BRADFORD, PA., Aug. 21.—While motoring from Bradford to Pittsburgh recently J. B. McMillin of J. B. McMillin & Co., and family experienced being wrecked by a doe. At a point half way between Johnsonburg and Ridgeway, Pa. Mr. McMillin, just after passing a truck, spied the animal at the right of the road. The doe made a leap to hurdle the car but struck the sun visor and crashed through the windshield, breaking the forks of the steering wheel and forcing the McMillin car into the ditch, narrowly missing a telegraph pole.

Mrs. McMillin, who was sitting in the front seat, was only slightly injured by flying glass and their two children received a few scratches on their legs. Mr. McMillin suffered mostly from numerous cuts about the face and hands, one gash having severed a tendon in his right hand.

The doe, after getting untangled from the machine, scampered away leaving a trail of blood in its wake. Residents of this section claim very few deer have been seen in the vicinity, although they are known to roam below Ridgeway several miles further south.

KANSAS CITY, MO.—Skelly Oil Co. recently purchased the stations and equipment of Brickler Oil Co. at Chanute, Kans. The purchase included one bulk and two service stations at Chanute and one bulk station at Galesburg.

The Editor's Viewpoint

National Petroleum News

Average Well Slow Paying Out

MANY an oil man outside the oil country thinks all oil wells are gushers. You hear about the 1000-barrel wells in Oklahoma, for illustration, but many are the weeks you can count them on your fingers.

Check of the last six years shows that 36,355 wells have been drilled in Oklahoma, of which more than 75 per cent produced 100 barrels a day or less on their initial flow, which means that they produced much less than that the third and fourth days and so on the rest of their life. Furthermore, 27.2 per cent of these holes were dry, 9.7 per cent were gas wells. More than 7000 of these holes produced at the outset, instead of 1000 or 10,000 barrels of oil when they were drilled in, but 25 barrels or less.

Here's the financial history of a typical well that came in at 83 barrels per day at 3000 feet. During the first eight years of its history, its operating net profit, which means what was saved out of the sale of oil after paying for bringing that oil to the surface was $17,605.44—out of this the owner of the well had to pay nearly $20,000 drilling expense for putting the well down in the first place, plus taxes. The well stood him a loss at the end of the eight years—that is one of the hazards of the business. Maybe in later years conditions may change, the price of oil get high enough so he eventually will pay out.

It's interesting to see that the first year the gross income from the sale of oil from that well was nearly $25,000, the eighth year it was $350.

These are some of the facts the oil industry should study in relation to the efforts being made by some of the radicals in Oklahoma to increase the tax on crude oil.—W. C. P.

Propaganda From Coal Trade

IN various parts of the country where the installation of oil burners for domestic heating has made considerable progress the coal dealers, either individually or through associations, are putting out propaganda to the effect oil burning adds to the fire hazard of the home, and can be carried on for only a few years at best because of a coming shortage of oil fuel, and consequently advancing prices that the householder cannot afford to pay.

One such folder being sent by the Easterbrook Coal Co., Cleveland, to dwellers in the better part of the city, tries to awaken the fear of fire in the mind of the readers through a lurid red and black cover showing homes burning, with the word "Fire" in big red letters at the top. Turning to the inside the text, which is headed "Fuel by the Ton or Gallon" cites one case of a fire in Cleveland caused by "faulty oil equipment," and gives no authority of any fire or insurance official that this was actually the cause.

Going on through two pages of reading matter, the circular quotes from an article in the Scientific American as to the supposedly short time in the future in which oil will be available for home heating. Here again the reader is left without any knowledge as to the authorship of this article, but, from the point of view taken and all the arguments against installing oil burners presented, it's dollars to doughnuts it was written by a coal man as propaganda and the circular is a case of one piece of propaganda quoting from another. Again the circular gives the equivalent of burner distillate to a ton of "good coal" as 200 gallons, while most authorities place it at not over 145 to 150 gallons.

The prize argument of the circular, the one that is most patently a false statement of facts to anyone familiar with industrial boiler plants, but which might easily confuse the housewife, say, is the concluding one, set off in black type. You don't catch the oil refineries running on fuel oil, it says in substance, the Standard Oil Co. right here in Cleveland burns coal. "They have plenty of fuel oil, but sell it to the people who can afford the luxury of burning it," sums up the argument, for the purpose of misleading the reader, ignoring the fact that at refineries and many other classes of industrial plants, a low grade of industrial coal is used, the price of which does not allow the competition of fuel oil, whereas in other kinds of plants and in domestic heating oil is competing with coal two or three times as costly as the low industrial grades.

One sentence in an earlier paragraph, seems typical of the attitude of the coal industry in the whole matter of helping the householder to get the most in comfort out of his heating plant. Commenting on the oil man's argument that the oil burner does away with a good deal of the work needed to run a coal furnace, this bit of coal propaganda says a $30 to $50 investment in a control attachment for any coal-burning equipment will make it also automatically controlled. In other words the coal dealer hasn't bothered himself to bring to your attention, as a householder, this device to save labor on your part, until oil competition forced him to. Now his attitude is, well, we can give you this automatic control if you really think you want it.

The coal business let a man who built a home put in a heating plant that dated back almost to the middle ages, as far as any improvement in engineering was concerned. Since another industry has shown that improvements in home heating are possible, the coal business has been for the most part content to cry out loud, rather than to set about, with the aid of the best engineers that could be found, to design a home heating plant for coal that could meet many of the talking points of the oil burners.—V. B. G.

Another State Enterprise Going Broke

IT may finally get home to a lot of people that individual enterprise and skill of management is what makes the world go round, and not just an economic theory.

North Dakota residents are now viewing, and it should be with dismay, the loss of $1.50 on every barrel of flour that the state owned and operated mill made the first six months of this year. This runs the total loss on the mill to date way past the million dollar mark, and this is in hard money and does not include the loss that will probably have to be taken on junking the entire plant some day.

The man who is skilled in making noise and twisting the truth so as to get votes, generally is not the one to run any business properly. If he could do the latter he would not be wasting his time and talents in a small pay state job.—W. C. P.

Who Wants To Sell a Small Order?

Guaranteed 100% PURE PENNSYLVANIA OIL

Permit No. 19

We do . . . . . we'll take them large or small.

Naturally, we like the big orders too, but so many of our prosperous accounts have grown from the sample-sized order to carload proportions, that we take pride and interest in every order.

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. . . . . that's Empire Oil. Coming from a reliable source of supply one of the original, faithful fields rich in natural contents and refined by a generation of oil men—here indeed is a product you can sell with confidence.

Write, wire or phone your needs at our expense.

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Chemists and Engineers

The revised tenth edition of OIL ANALYSIS by A. H. Gill, is ready for you. It has added a section on the examination of motor gasoline and a description of the latest model Mac-Michael Absolute Viscosimeter, and has been brought thoroughly down to date.

The price is still $2.50. Send us your check and let us mail a copy of it to you:

NATIONAL PETROLEUM NEWS
808 Caxton Building Cleveland, Ohio

Forty-Four States And D. C. Tax Gasoline

By Special Correspondent

WASHINGTON, Aug. 21.—Forty-four states and the District of Columbia, on Aug. 1, had laws imposing a consumption tax on gasoline. Illinois, Massachusetts, New Jersey and New York have no tax laws. Twenty-two states impose a tax of 2 cents per gallon. The taxes in the other states range from a cent to 5 cents, the high tax states being Kentucky and South Carolina. The 1-cent tax states are Rhode Island and Texas.

These facts are set forth in a bulletin issued by the Washington office of the National Petroleum Association and Western Petroleum Refiners Association, signed by Fayette B. Dow and Horace L. Lohnes. The bulletin contains a digest of the essential parts of the statutes. Interpretations have been avoided.

Some information is not taken from the statutes but from the administrative forms used in connection with the enforcement of the statutes, as for instance, refunds on account of the fuel being used in trucks. The whole is a volume of 45 pages of mimeographing on letter size sheets bound together.

Wyoming has a tax of 2.5 cents. Arizona, Idaho, Indiana, Maine, New Mexico, Oklahoma, Oregon, South Dakota and Tennessee charge 3 cents; Georgia, Utah and West Virginia, 3.5 cents; Arkansas, Florida, Mississippi, Nevada and North Carolina 4 cents, Virginia 4.5 cents and, as before set forth Kentucky and South Carolina, the highest tax of all, 5 cents a gallon. All the others charge 2 cents.

Bulk Plant and Refinery Damaged by Fires

BALTIMORE, Aug. 20.—About half a million gallons of gasoline, kerosene and lubricating oils were burned Aug. 10 at the bulk plant of the American Oil Co. here. Several tanks, tank cars and the company's warehouse were destroyed. Five firement were burned. The burned area covered a city block. Several explosions rocked the district about the plant.

Nordstrum Has New Connection

TULSA, Aug. 19.—E. J. "Newt" Nordstrum, well known among oil equipment dealers and purchasers in this territory, is now associated with the Taubman Supply Corp., vice-president and manager of sales of the new pipe department. For the present he is to make his headquarters in the company's district office, Magnolia Bldg., Dallas.

Mr. Nordstrum was for 10 years purchasing agent for the Empire companies at Bartlesville and an active member of the Tulsa Purchasing Agents Association. For the past three years he has been district sales manager for the Superior Tube Co.

Side Lines Considered Out of Place At City Service Stations

By Roger B. Stafford
N. P. N. Staff Writer

CLEVELAND, Aug. 24

THE city service station particularly where gallonage is good is not the place for the sale of anything other than gasoline, oils, greases, and a few minor needs of the motorist, in the opinion of 41 of 46 Independent oil companies in business in all parts of the United States east of the Rocky mountains. Other merchandise than oil and greases, particularly tires and tubes, may be handled advantageously anywhere in the opinion of the other five, two of whom are in business in Tennessee, one in Virginia, one in Ohio, and one in Kansas.

Officials of many oil companies believe there is room for the sale of merchandise other than petroleum products at stations along tourist routes, and in small towns, and a few believe accessories may come to be handled at stations in residential districts of the larger cities.

Of the 46 companies that gave National Petroleum News their views on the handling of goods other than gasoline, oils, and greases, 25 report they were handling nothing but those commodities at their own stations and possibly kerosene and, in winter, alcohol. Twenty one handled other goods, mostly articles for which motorists all have need. Their line included tires, tubes, tire boots, blowout patches tire repair kits, light bulbs, spark plugs, valve cores, auto soaps and polish, tire locks, tire covers, high pressure grease fittings, fan belts, radiator cement, storage batteries, distilled water, smaller Ford parts, and a few miscellaneous supplies such as washers, nuts and bolts.

"Grafts" Dealt in Also

ONE distributor said he handled furniture polish and fly chaser while another who stocks cigars, tobacco and candies, said he also operated "slot machine and punch board grafts," quoting him.

In cases in which oil companies have leased their stations to individual operators, these operators have put in stocks of other merchandise of their own volition mostly but sometimes, only with the approval of the oil company. About half of the companies said they were solicited by salesmen for goods in lines unrelated to the petroleum or automotive industries. Accessories handled through service stations were purchased, most of those dealing in such articles said, by company officials but in a few instances station managers made the the purchases or submitted recommendations for goods that would be salable in the community in which the station was situated.

Few of those not handling accessories said they felt the competition of stations that handled them.

A Wisconsin jobber said he believed service stations some distance from a garage or accessory store should carry emergency supplies for motorists. An Iowa jobber who handles nothing but petroleum products now, said he expected to put in some automobile accessories at his suburban stations. Any competition he might have from stations that handle other merchandise than gasoline, oils and greases, he said he overcame by giving courteous service, and road information.

Tires Profitable in Akron

OPINIONS vary widely about whether it is profitable to deal in side lines. "We find it profitable," wrote S. E. McFarren, manager of the C. A. Pierce Oil Co., Akron O., which not only deals in tires and accessories but is distributor in Akron and surrounding territory for one of the large tire manufacturers.

A. B. James, Belvidere, Ill., service station owner said his stations formerly carried a considerable line of accessories but found that so many gasoline customers were being lost while his men were trying to sell a tube that all sidelines but valve cores, spark plugs and patches were discontinued.

Accessories and tires have a definite place at gasoline and oil service stations, in the opinion of C. A. Dudney, Gasoline Service Corp., and F. S. Cooper, Estes Cooper Oil Co., both of Nashville, Tenn. Mr. Dudney said he believed stations will have to come to it and Mr. Cooper said, "The station most complete in tires, accessories, greasing, soft drinks, sandwiches and such, sells the largest gallonage and has the cash to pay in our locality." He added that he believed the location of such a station made no difference; that it might be in a city as well as in a small town or along a rural tourist route.

A Wisconsin jobber who sells only petroleum products at his station, wrote, "A good station has all it can do to give service on gasoline and oils if it wishes to do that right." He continued that he did not believe oil company service stations in the future would carry side lines unless the station did not pay as a filling station.

"Side Issues Hurt Service"

A. L. LOMMEL, Bartles-Shepherd Oil Co., Waterloo, Iowa, holds much the same opinion as the Wisconsin man who did not wish to be quoted directly. Concerning stations in good locations, Mr. Lommel said, "Any side issues will detract from service on gasoline and oil, and will lose more customers than they will bring to such stations. We have tried to sell various minor items at our stations but without any great success."

Charles E. Tucker, Peerless Oil Co., Elyria, O., is still another who does not think it good policy to handle other goods at stations in cities. Gasoline oils and greases should be the limit of the merchandise company oil stations should handle.

The Pryamid Oil Co., Minneapolis, is

TO BUY OR NOT TO BUY

TO BUY or not to buy,—that is the question;
Whether the profits will be larger
If tires and trinkets of an hundred kind,
Or gasoline and oil alone, shall constitute
The merchandise in stock at every filling station;
Buy! that is the clamor every drummer lifts,
Who says his wares sure are the rainbow's end;
But hold, cry they that on experience draw,
While we are wheedling any man to buy a tire,
A score or more of goodly patrons at the pump
Rave and storm and go to our competitor for gas;
If you would sell these baubles and accessories
Go forth along the great highways, and there
The hot dog man and barbecue will buy these trifles
With which to glean an extra cent or two
When gasoline and oil sales fall to a low mark;
But here in town, ah no! we concentrate on service,
So have no time to coax the extra change
From out the pocket of the motorist.
Oh, woe is me! that this perplexing question
Shall still go on unsettled.

—From an Oil Man's Shakesbeer.

discontinuing foreign items in controlled stations, J. R. Atchison wrote. He favors side lines at tourist locations only.

Side lines are all right at stations along tourist routes, in small towns or at privately owned operated stations, is the belief of J. M. Wolf, Southern Minnesota Oil Co., Fairmont, Minn., who says his company may be forced to stock goods other than petroleum products if competition continues to increase.

Jack Nourse, Nourse Oil Co., Kansas City, who needs no introduction to the oil industry has this to say:

"From our own experience as manufacturers of specialties, we find that a specialty which is made from grease or oil, and which can be fitted into parts of the general lubricating system of the car, is splended, but from what our many customers among the jobbers tell us, they find tires and tubes and accessories of that kind, not so good. As a rule the man handling tires and tubes, accessories or soft drinks, or anything of that kind has generally been in some other business, and has added oil and gas to his line."

Place for Independent Operator

H. F. STOKE, Stoke Oil Co., Roanoke, Va., believes that in the future gasoline and motor oils will be done by individual dealers who will lease stations from oil companies and add easy selling goods that meet a popular demand. His company, he says, is committed to that policy and finds that it is satisfactory. The lessee, Mr. Stoke said, has a self interest in the business, treats the public well and makes unnecessary the close supervision required for company operated stations. He says he does not believe the chain idea would work with stations handling side lines.

That the individual station owner may make a success of side lines but probably not the company owned and operated stations, is the theme of the following note from an Ohio jobber who refrains from letting his name become known:

"One man in this city once said to me, 'I've had a prospective tire sale spoil a gasoline sale and customer, and often a gasoline sale lost a tire sale.' I do not think that a company that owns and operates the station can afford to handle side lines.

"I believe that the individual that owns or operates a station and is there to watch it and see that service is not neglected one for the other, can do well with side lines pertaining to the autoists' needs."

He concluded with this Biblical injunction, "Serve one Master."

Several distributors say the automobile supplies they sell are handled more as an accommodation than for profit. This is the case of the Denver Powerine Co., Denver, and the Northland Oil Co., Chicago, according to F. C. Cramer and C. L. Maguire, of those companies.

Supplies that can easily be carried at oil company service station can help motorists out of 50 to 75 per cent of their troubles, the manager of a large Ohio jobbing company estimated.

About half of the companies selling side lines paid their station salesmen commissions on sales of those goods. The remainder made no special provision but one company reports paying as high as $175 a month to its salesmen. This company operates large stations and pushes its tires hard; it was in the tire business before it entered the gasoline and oil business.

Turnover is fairly rapid, some reported. Three companies wrote the turnover was every 30 days. Others said side line stock was turned over only every 60 to 120 days.

There is no unanimity among the companies that expressed their opinions of side lines to National Petroleum News. There were expressions of ideas that were preponderant, probably the chief being that side lines are not for busy filling stations. One idea that has almost equal rank is that individually owned and operated stations in quiet locations and along tourist routes may profitably sell candy, pop, tobacco and not let their sale interfere with the gasoline and oil business.

But at busy stations, it seems that emergency automobile supplies that do not require intensive merchandising may be carried as an accommodation but it is better to keep after the bears instead of chasing rabbits. Better to sell gasoline than gimcracks.

And Now:—

THE NEW

VOLCKER VISIBLE

With the many improvements and advantages, put this pump in a class

SECOND TO NONE

The new series "P" units have piston type pumps, sand blasted calibrations, nickel pipe in the container and furnished complete as shown.

Series "P" pumps are pumps of QUALITY, yet the price is surprisingly low. Order one today and become one of the thousands of satisfied users.

Type P-G
5-gal. hand pump
$68.00

visible globe or foot valves not included

Type P-H
10-gal. hand pump
$73.00

VOLCKER MFG. CO.

Huntington, Indiana

Wide Range To Be Covered in Papers At A.C.S. Philadelphia Meeting

PITTSBURGH

A WIDE range of subjects is to be covered in papers presented before the meeting of the Petroleum Division of the American Chemical Society to be held in connection with the meeting of the whole society at Philadelphia Sept. 6-11, according to the announcement sent out by G. A. Burrell, secretary of the Petroleum Division, with abstracts of the papers to be presented. Following are short abstracts of the papers to be presented.

The Thermolability of Hydrocarbons, by James B. Conant, Harvard University.

During the last few years certain facts have been discovered in connection with a study of "free radicals" which may have considerable bearing on the cracking of petroleum. It is the purpose of this paper to call attention to these facts and to discuss the possibility of further investigation along these lines.

It has often been suggested that one of the principal reactions involved in the thermal decomposition of hydrocarbons was the cleavage of a carbon bond; the "free radicals" which thus resulted could be imagined to undergo further decomposition. Such reactions have been quite thoroughly studied in the case of hydrocarbons containing phenyl or other aryl groups.

* * *

A Laboratory Method of Determining the Starting Properties of Motor Fuels, by Wheeler G. Lovell and John D. Coleman, with T. A. Boyd.

One of the most important properties of a motor fuel is the ease with which engines may be started with it. The starting characteristics of any given fuel are a complex function of its physical and chemical properties and of the temperature of its mixture with air. Hence, the starting characteristic is a property which cannot be determined accurately from conventional distillation curves or from dew points and similar measurements.

* * *

Simple Method Sought

EASE of starting may be determined directly in an engine, of course, when proper means are provided for controlling conditions. But, since a large amount of equipment is needed for such a test an attempt has been made to devise a laboratory method of determining the readiness with which an explosion may be obtained with any given fuel at the temperature desired. This method consists in measuring directly the fuel-air ratio necessary to produce an explosive mixture at any given temperature. It has been applied to the testing of a considerable number of fuels of widely different properties over a broad temperature range. It has been applied to the testing of a considerable number of fuels of widely differing properties over a broad temperature range and has been found to yield results that are comparative with those obtained in starting tests on actual engines.

* * *

Studies of Combustion in Gasoline Engines, 1—The determination of the rate of burning by chemical analysis, by Wheeler G. Lovell and John D. Coleman, with T. A. Boyd.

As a departure from the usual methods of investigating combustion in gasoline engines a study has been made of the burning during its actual progress and from a chemical point of view. The final products of combustion, as represented by the constituents of the gas exhausted from the engine, indicate that the overall burning reactions are quite definite and that they are conditioned by the initial mixture and the type of combustion. The ordinary method of examining combustion by way of the engine exhaust is subject to the disadvantage that the burning takes place so long before the exhaust stroke that the final products do not give definite information as to how the actual burning has proceeded. It is important, therefore, to sample gases from the cylinder during the actual explosion. For this purpose a special, quick acting water cooled sampling valve has been devised which makes it possible to follow the course of the burning and to determine its rate.

No Sudden Change Found

IT appears from the results obtained that the combustion of gasoline proceeds in such a manner that there is no sudden change from burned to unburned gases over a small time interval as might be inferred from the usual flame concept. The effect of the knock is to increase the rate of burning of gasoline whether the detonation is caused by the addition of kerosene, by the presence of a chemical knock inducer or by an increase in compression. The burning of gasoline in the presence of lead tetraethyl proceeds at about the normal rate.

* * *

Studies of Combustion in Gasoline Engines, 2—Wheeler G. Lovell, John D. Coleman, with T. A. Boyd.

A continuation of the work reported on in the previous paper.

The Evaluation of Turbine Oils, by T. H. Rogers and C. E. Miller.

* * *

The deterioration which turbine oils undergo in service is due to oxidation. This oxidation has been studied and a test has been developed in which the oil suffers in relatively short time changes which parallel those in actual service. Oxidation is carried out at 210F. in the presence of iron and determinations of acidity, Herschel demulsibility and sludging time serve as the criteria in evaluating the quality of the oil. Comparisons between laboratory tests and test runs in plant turbines are given.

* * *

An Investigation of the Changes in Some of the Physical and Chemical Properties of four Unblended Mineral Oils Produced by Prolonged Treatment with Ozone, by Dover O. Cromwell, Johns Hopkins University.

The effect of prolonged treatment with ozone upon various physical and chemical properties of four mineral oils has been investigated and an attempt has been made to show some relation between these changes and the variation thus produced in the static coefficient of friction as measured by the Deeley machine between steel surfaces. The oils used are in each case unblended. Two are asphaltic base and two are paraffin base oils.

* * *

Some Reactions of Lead Tetraethyl, by Owens Hand Browne and E. Emmett Reid.

The methods for making triethyl-lead chloride, hydroxide and acetate have been improved. Silica gel has been found to be an excellent catalyst for causing acids to act of lead tetraethyl. Some salts of tri-ethyl lead have been made by double decomposition from the acetate, others have been prepared by the direct action of the acids on lead tetraethyl in presence of silica gel.

* * *

Lubricating Greases, by James McKee.

Comparing ingredients used a decade ago and those utilized today. Noting the different stages of development such as the elimination of non-lubricating materials. Economical changes in manufacturing methods thereby producing superior finished greases. Defining proportions of materials used and describing manufacturing methods employed in making calcium and sodium base greases.

Recent research brings radical changes in plant construction and fatty materials. Pressure action on regular fats hastens saponification. Specific treatment of fats reduces quantity without altering finished grease consistencies. Over 300 degrees C.M.P. lubricants from pure fats and paraffin oils. How ordinary fats are being replaced advantageously by petroleum fatty acids.

* * *

A Direct Refractometer Method for the Determination of Oil in Paraffin Wax, by S. H. Diggs and C. C. Buchler.

For refined and semi-refined waxes the index of refraction (140F) of the sample is determined. Approximately 50 gr. is filtered through 50 gr. of Attapulgas clay and the index of refraction of the oilfree filtrate is obtained. This value represents the zero per cent oil point of a curve of index of refraction versus per cent oil. A wall chart has been constructed having a movable brass arm shaped to this curve and pivoted to the 100 per cent oil point. The movable end is set at the zero per cent oil point as determined above and the per cent oil corresponding to the index of refraction of the sample is read directly from the lower edge of the arm.

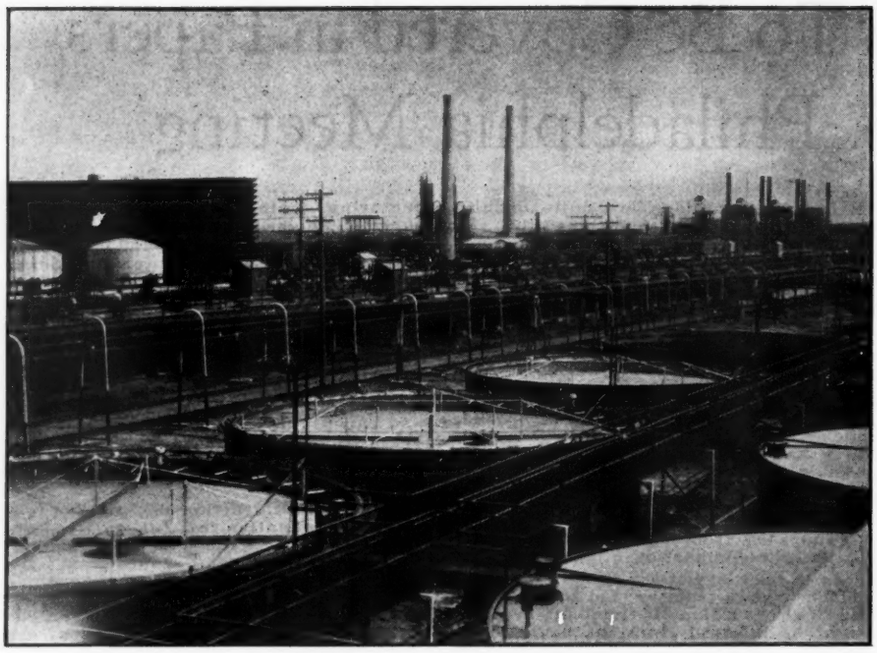
* * *

Deterioration of Mineral Oils. Mechanism of Oxidation and Action of Negative Catalysts, by R. T. Haslam and P. K. Frolich.

A detailed study of the oxidation by a dynamic method of the highly refined Parke-Davis mineral oil has made possible certain definite conclusions as to the mechanism of the oxidation process. The start of oxidation is manifested by change in color, increase in acidity and viscosity. A change in one of these properties is invariably connection with a corresponding change in the others. The rate of oxidation increases with elevation of temperature and is about five times as rapid with oxygen as it is with air. The susceptibility to oxidation is somewhat dependent on the previous history of the oil and is increased by preheating the oil even in nitrogen. Moisture does not affect the rate of oxidation at the temperature of the accelerated test, 130° C. Ultimate analyses prove that no oxygen is taken up by the oil until the oxidation can be detected by either one of the above variables. Only a fraction of the oxygen taken up goes to the formation of acids, the remainder being present in the oil in the form of asphaltic bodies resulting from condensation (polymerization) of intermediate products of oxidation.

With increasing temperature the viscosity increases more rapidly than does the acidity, probably on account of relatively more condensation taking place. Aldehydes are not stable in oxidized oil, but are immediately condensed to higher molecular compounds or further oxidized to acids. The asphaltic condensation products, responsible for the increase in viscosity, are not formed from acids. The viscosity and acidity of the oil do not change when an oxidized sample is maintained in the absence of oxygen even at a temperature of 130° C. A number of organic compounds have been found to act as inhibitors of the oxidation. Others have been found to act as positive catalysts or not to affect the process at all. In the case of negative catalysts, the oil apparently remains unchanged during the period of incubation.

After this period, the oxidation proceeds as for the pure oil. On the basis of the above conclusions a scheme for



Wiggins floating roof tanks in foreground, Dubbs cracking plant in background and Cross plant in rear center at the plant of the Marland Refining Co., Ponca City.

the mechanism of the oxidation of mineral oils has been proposed. The stage of oxidation which is affected by negative catalysts is shown to be the initial oxidation of hydrocarbons to alcohol.

* * *

Mechanism of Static Oxidation, by Brian Mead, A. C. Phelps, C. R. Washburn and J. P. Warner.

A preliminary series of experiments has been performed using a static method of determining the oxygen absorption by mineral oils at temperatures not higher than 130° C. The results of the oxidation viz. sludge and acidity have been determined. It is possible to draw the following tentative conclusions:

1. Temperature markedly affects the rate of oxygen absorption, the temperature coefficient being 2-5 per 10° C.

2. Over the comparatively small range of surfaces of oil investigated, the amount of surface exposure has no measurable influence on rate of oxygen absorption at 120° C.

3. Both at 120° and at 130° C. the rate of oxygen absorption by oils may be represented as a straight line function of time.

4. Sludge formation and acidity development both start very slowly and their rate increases as the experiment progresses. There is some evidence that sludge formation is catalysed by acidity development.

5. The rate of oxygen absorption seems to be proportional to the degree of unsaturation of the oil.

* * *

Prevention of Deterioration by the Use of Antioxidants, by Brian Mead and W. L. McCabe.

Of 177 compounds which have been tested, 48 have been found to exert an inhibitory action on the deterioration of mineral oils, as evidenced by sludge formation. Of course, the outstanding ones are lead tetra ethyl, sulfur, intrecresol and introbenzone.

(Thanks are due the Standard Oil Co. of New Jersey for permission to publish these results.)

* * *

Mechanism of Static Deterioration of Transformer Oils, by Brian Mead, E. F. Dirks and W. B. Bader.

The deterioration of a commercial transformer oil has been investigated at 150° C., sludge and acidity development being the criteria. The influence of the presence of deterioratd oil on good oil has been demonstrated.

* * *

Influence of Lead Tetra Ethyl, by Brian Mead and John C. Pope.

The influence of small amounts of lead tetra ethyl on the sludge formed by transformer oil has been determined quantitatively at a number of different temperatures.

* * *

A Cryoscopic Method of Determining the Benzene Content of a Motor Fuel, by L. M. Henderson.

Drapier has suggested that the percentage of a component A_1 in a mixture F can be ascertained if it is possible to measure the lowering of the freezing point produced by the mixture F (solute) in A_1 used as solvent and also the lowering effected by the mixture F in some other solvent which is not an ingredient of F. The suggestion is here applied to the determination of benzene in motor fuels by measuring the lowering of the freezing points produced by the fuel in glacial acetic acid and in benzene. The method is tested on blends containing various amounts of benzene and an equation is given for calculating the per cent benzene in the mixtures.

* * *

The Determination of Wax in Intermedintes, by L. M. Henderson and S. W. Ferris.

The acetone method for the determination of yield and melting point of wax, as given in Bureau of Mines Bulletin No. 368, is not applicable to samples containing more than 10 per cent of oil. A method has been developed, using nitrobenzene as the oil solvent, by which the yield and melting point of wax may be determined in intermediates containing as much as 60 per cent or more of oil. An apparatus has also been constructed in which the entire process of separation, complete removal of nitrobenzene, weighing and determination of melting point may be carried out without transferring the sample.

* * *

Measurement of the Bloom of Lubricating Oils, by L. M. Henderson and H. C. Cowles, Jr.

A method is given for measuring quantitatively the color and intensity of light reflected from oil surfaces. An Ives Tint Photometer has been so modified as to permit the light from an external source of standardized intensity to fall upon the surface of the oil at a fairly definite angle. The reflected light is compared with the standard light by means of the filters supplied with the instrument. The amount of each of the principal colors is read on a logarithmic scale. The absorption thus noted is plotted against wave length and the shape of the curve shows the color and relative brightness of the bloom. The influence of temperature on the bloom has been investigated as well as the effect of blending of different types of oils.

* * *

The Composition of Gasoline as Indicated by Close Fractionation, by J. B. Hill, L. M. Henderson and S. W. Ferris.

Gasolines obtained from different sources have been fractionally distilled and each 2.5 per cent primary cut assayed. Their average boiling range was about 6° C. but in individual cases the boiling ranges were less than 3° C. Curves have been drawn showing the 50 per cent boiling point of successive fractions plotted against their specific gravities and refractive indices. These curves have been compared with similar curves for pure hydrocarbons. The values for pure naphthenes lie closer to the points obtained with gasoline derived from a naphthenic crude than those obtained from gasoline of a paraffinic crude. There are, however, sharp peaks and troughs in all the gasoline curves and the breaks fall in similar positions for each sample irrespective of source; whether California, Mid-Continent or Pennsylvania crudes. Certain fractions of each gasoline are far more naphthenic than neighboring cuts. The fractions falling on the peaks and in the troughs of these curves have been re-fractionated and examined chemically and physically.

* * *

The Probable Cause of Detonation in the Internal Combustion Engines, by George Granger Brown and G. B. Watkins, Department of Chemical Engineering, University of Michigan.

Previous work has shown that an increase in the initial temperature decreases the velocity of flame travel, the rate of rise of pressure, and the tendency to initiate the detonation wave, in all progressive homogeneous reactions; and increases the rate of rise of pressure and tendency to detonate in internal combustion engines and in bomb explosions where auto-ignition occurs. It has also been shown that the rate of rise of pressure upon explosion in a progressive homogeneous reaction is the major factor in indicating the tendency to initiate the detonation wave, but is not the major factor in indicating the tendency of a mixture to "detonate" in internal combustion engines.

It is well known that hot surfaces in the combustion chamber of an engine increase the tendency to knock or "detonate," and that these hot surfaces are well above the ignition temperature of the explosive mixture. Following the suggestion of Woodbury, Lewis and Canby (1921), supported by our subsequent work, that the engine knock is caused by some form of auto-ignition.

* * *

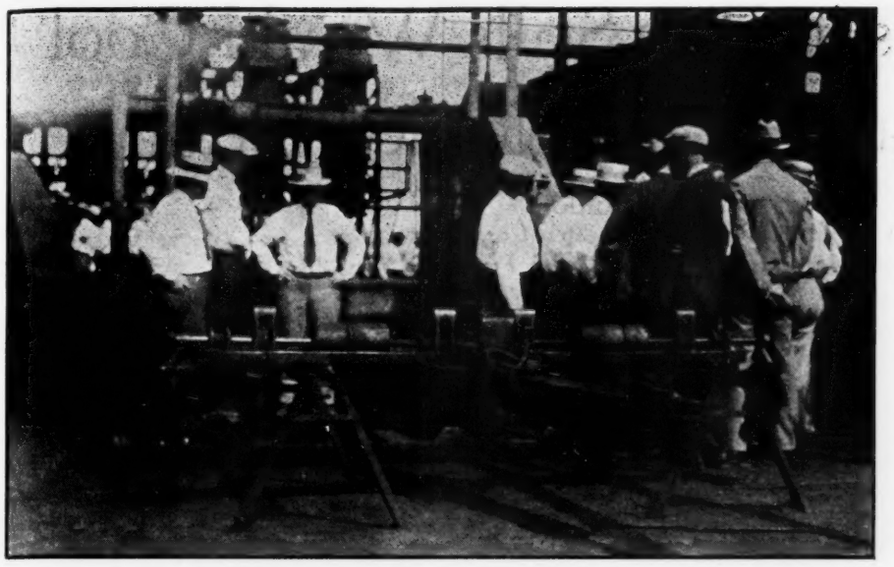
Contribution from the Research Laboratory of the Ethyl Gasoline Corp., Measurement of Knock Characteristics of Gasoline in Terms of a Standard Fuel, by Graham Edgar.

No method is known at present for any absolute method of measuring the knock characteristics of fuels. All methods consist essentially in comparing the performance of two different fuels. It is highly desirable that a reproduceable standard fuel be developed to serve as a primary standard, thus permitting a comparison of the results of different laboratories and different experimental methods. It is possible by mixing normal heptane and a new synthetic octane to duplicate the knock characteristics of any commercial gasoline. It is proposed to utilize these mixtures as primary standards in rating the knock characteristics of fuels.

* * *

On Saturation of the Petroleum Hydrocarbons as Shown by their Reaction with Bromine, by Charles F. Mabery.

For some time I have observed the explosive action of bromine on the petroleum hydrocarbons, and recently I have taken up the study of this reaction with



Compressed air-driven reamer for removing the coke from Fleming cracking stills. This is used at the plant of the Marland Refining Co. and was shown to the refinery superintendents and technologists when they met at Ponca City last month.

solvent fractions and with distillates. This note briefly describes the method as now applied, and it is presented here, for some time may elapse before the results now in prospect are completed.

In brief, the oil is dissolved in carbon tetrachloride and the theoretical amount of bromine gradually dropped from a graduated burette into a flask containing it, with a side tube dipping into another flask containing water. The bromine quickly reacts in the cold and the reaction is completed by heating gradually in hot water to 50-60°. The hydrobromic acid evolved is washed out of both flasks, made up to a definite volume, and after removing the small amount of bromine that escapes the reaction, is titrated. Direct sunlight does not seem to aid the reaction. The brominated solution is evaporated on the water bath, dissolved in either, a little alkali added to remove any possible bromine remaining, washed, dried with calcium chloride, the ether evaporated, and the oil finally dried in vacuum over sulphuric acid. The bromine substituted oils are apparently stable under these conditions, but are decomposed in the air bath at 100-120° with the elimination of the elements of hydrobromic acid.

* * *

Gravity of Paraffin Wax, by F. J. Morris and L. R. Adkins.

Difficulties in determining the gravity of solid paraffin wax are found to be due to dissolved air and the large shrinkage at the solidifying point. There seems to be a change in the expansion coefficient at this point, so that the gravity of solid wax cannot be determined from the gravity in the melted condition. Best results on wax at intermediate temperatures were obtained with a special type of Nicholson hydrometer.

* * *

The Effect of Treating on the Anti-Knock Properties of California Cracked Gasoline, by Gustav Egloff and Jacque C. Morrell, Universal Oil Products Co., Research Laboratories, Chicago.

A number of tests were conducted to determine the effect of treating cracked gasoline for color and odor, and its effect upon the detonating properties of the untreated and treated cracked gasoline. In treating a California cracked product with sulphuric acid for **color and odor,** it was found that the treated cracked gasoline had a 3 per cent lower benzol equivalent than the untreated cracked gasoline.

California Cracked Gasoline

SPARK ADVANCE

Knock Point	Treated	Untreated
A	17.0	23.0
B	25.0	27.0
C	32.0	34.0
D	42.0	45.0
Benzol Equiv. %	35.0	38.0

The California cracked gasoline was not acid-treated to the extent of bringing the sulphur content of the gasoline down to 0.15% but was just treated sufficiently to improve the odor and color to marketable conditions.

* * *

The Effect of End Point on the Anti-Knock Properties of Gasoline, by Gustav Egloff and Jacques C. Morrell, Universal Oil Products Co., Research Laboratories, Chicago.

* * *

It has been generally held that the higher the volatility of gasolines the better the non-detonating properties.

A series of experiments were carried out in an automotive engine to check up on the effect of the end point of gasolines upon their detonating properties in an automotive engine. Three commercial end points of gasolines were selected for comparative tests, being approximately 390°F, 410°F and 430° F. Comparative tests were made at these three temperatures on Cushing straight-run and cracked gasolines derived from the same crude, and also on California straight-run and cracked gasolines.

On the Cushing straight run gasoline no differences were found on the non-detonating properties of the three gasolines having end points of 389°F, 412°F and 427°F. Likewise practically no difference was found in the non-detonating properties of Cushing cracked gasoline when tests were made on end point gasolines of 393°F, 411°F and 430°F.

	CUSHING STRAIGHT-RUN GASOLINE			CUSHING CRACKED GASOLINE		
END POINT	389°F	412°F	427°F	393°F	411°F	430°F
Knock Point	Spark Advance			Spark Advance		
A	5.5	6.0	6.0	8.5	10.5	10.0
B	9.0	9.5	9.0	11.5	13.0	13.5
C	13.5	15.0	15.0	18.5	17.0	17.5
C	19.0	19.0	19.0	23.0	22.0	22.0
Benzol Equiv. %	0.0	0.0	0.0	10.0	8.0	8.0

The California straight-run gasolines having end points of 388°F, 408°F and 431°F showed a maximum difference between the three gasolines of 4% benzol equivalent. Likewise California cracked gasolines with end points of 386°F, 406°F and 429°F showed a 4% benzol equivalent difference.

	CALIFORNIA STRAIGHT-RUN GASOLINE			CALIFORNIA CRACKED GASOLINE		
END POINT	388°F	408°F	431°F	386°F	406°F	429°F
Knock Point	Spark Advance			Spark Advance		
A	13.5	13.5	12.5	18.0	15.0	14.5
B	18.0	17.5	16.0	21.5	18.5	17.5
C	24.0	22.0	21.0	26.0	24.5	23.5
D	31.0	29.0	28.0	33.0	30.5	29.5
Benzol Equiv. %	24.0	21.0	20.0	28.0	25.0	24.0

Hartol to Run Franklin Quality Refinery

CLEVELAND, Aug. 21.—Hartol Products Corp., 192 Market St., Newark, N. J., which has been a marketer and exporter of Pennsylvania products, has taken over operation of the Franklin Quality Refining Co. plant at Franklin, Pa., and expects to run between 20,000 and 25,000 barrels of Pennsylvania crude oil a month, according to Frank C. Hart, manager of the corporation.

C. A. Hefren who was with the Lucinda Refining Co., Lucinda, Pa., will manage the Franklin plant for Hartol and Dr. Henry Straus will be the chemical engineer. Mr. Hart said his corporation plans to manufacture a high gravity low end point gasoline for the rubber trade as well as motor gasoline, neutrals and high flash cylinder stocks.

The Franklin refinery has been run off and on in the last few years although it was equipped fairly well for the manufacture of a full line of Pennsylvania products. However, Hartol is putting in a few towers and absorbers for light gases and adding several other improvements. Mr. Hart said his company plans to make the plant as efficient as any in the Pennsylvania field.

Pat O'Connor Joins Columbian

CLEVELAND, Aug. 19.—Patrick E. O'Connor, who was in charge of the petroleum group, national sales department, White Motor Co., Cleveland, has been appointed national sales manager of the Columbian Steel Tank Co., Kansas City. Mr. O'Connor has an extensive acquaintanceship among oil men. Before joining the White company he was in the sales department of the Lucey Mfg. Corp. The Columbian company has enlarged its plant facilities and increased production.

ST. CROIX FALLS, WIS.—A. H. Burfeind has completed a modern brick service station here at the intersection of highways 14 and 87.

Water Tubes in Pipe Stills Would Cool Oil Tubes and Make Needed Steam

By B. N. Broido
Consulting Engineer, The Superheater Co., New York
Delivered before Meeting of A. S. M. E., San Francisco, June 28

PART 1

THE operating conditions of a furnace for a pipe still are distinctly different from those of a furnace where heat is generated with the purpose of heating or evaporating any other liquid than oil. For instance, the furnace of a steam boiler should be operated at the highest temperature permissible for the refractories, or at temperatures considerably above 2000 F.

In a pipe still the hot gases reaching the oil tubes should not be higher than 1500 to 1800 F., depending upon the processes used and the kind of oil passing through the tubes. Steam boilers in practically all cases are provided with baffles which divide the gas path into many passes. In a pipe still, any concentration of heat at any one part of a tube should be avoided. Therefore the gases should be as uniformly distributed as possible over the entire length of the tubes. These two requirements have considerable influence upon the design of furnaces for pipe stills.

Other means than high gas temperatures must be sought to obtain high efficiencies. The combustion space or furnace volume and the fuel-burning devices must be so arranged as to meet the above requirements.

In most cases pipe stills are fired with oil. Often the gas formed while oil is being cracked, the so-called "fixed gas," is utilized in the furnace in addition to fuel oil. The two important features of design for oil-fired furnaces are volume and method of introducing the fuel and air or furnace arrangement and selection of burner. In the construction of the furnace it is very important to utilize every available cubic foot of space as combustion space.

Two Types Of Burners

BOTH types of burners can be used in pipe stills successfully; the steam or air atomizing burner and the mechanical or oil-pressure burner. Steam atomizing burners are often used, and reasonably good efficiencies are obtained. The original installation is less expensive, and no high-pressure pumps are required. It seems, however, that the following advantages of the mechanical burner are very well established:

1—Saving in steam as compared with steam atomizing burners.

2—Better regulation.

3—Less trouble from tip stoppage.

4—Less maintenance cost for burners.

5—What is, however, of most important consideration for pipe stills, is that the flame from mechanical atomizers is less intense, fills the furnace more completely with a soft, low-velocity flame, and does less damage to brickwork.

More satisfactory results are obtained with oil-burning equipment when the burner used is designed to give a graduated flame and equal efficiency for different quantities of oil burned. It seems that this qualification applies more to mechanical burners than to steam or compressed-air atomizing burners.

After the oil supply is regulated to carry the load, the air supply should be so adjusted to give a yellow billowing flame in the furnace and a slight haze of smoke from the chimney, this being a rough means of judging efficient combustion. Too much air results in a short dazzling-white flame similar to a tungsten electric lamp, and gives a perfectly clear chimney.

The author has seen a number of pipe stills where the flame was too near to the tubes. It is always advantageous to provide a long travel to insure complete mixing of the products of combustion before they reach the oil tubes.

In order to distribute the flame better over the entire furnace, it is more advisable in connection with pipe stills to have more smaller burners than fewer large ones.

The furnace volume required for the complete combustion of any fuel is a function of many variables, among the more important of which may be mentioned the chemical composition of the fuel, the type of fuel-burning equipment used, the shape of the combustion chamber, and the means provided for mixing the fuel and air in the furnace. In general, on account of its chemical composition and physical state, fuel oil when burned in modern mechanical atomizing burners requires less volume than any other fuel. In pipe stills, however, due to the fact that any concentration of the flame is to be avoided, liberal furnace volume should be provided. It is good practice to allow between 3 and 5 cubic feet per gallon of oil to be burned per hour, or between 15 and 20 cubic feet for every 100 square feet of the outside surface of bare oil-heating tubes and from 8 to 12 cubic feet for every 100 square feet of outside surface of the so-called "extended surface."

Furnace Walls

IN spite of the fact that in pipe-still furnaces high temperatures are not desirable, due attention should be given to the wall construction. A perfect furnace wall would be one which under all conditions of service remains impervious to the flow of gas or air, does not crack, spall, or soften, and does not become easily injured by occasional impingement of the flame. It is well known that our furnace walls fail to meet the above requirements fully, and we may profitably consider briefly some of the reasons for the shortcomings of the pipe-still walls, and some of the ways by which they may be overcome. Examining the characteristics of refractory materials, it would seem that an almost ideal combination of materials could be selected, and if money were no object, the construction of good furnace walls would be greatly simplified. Unfortunately, however, the cost of some of the more desirable materials is such as to prohibit their use except in small quantities for special purposes. Usually the weakest part of a wall is the joining material for the firebrick.

Fireclay of approximately the same composition as the brick has been found to be the most satisfactory material with

Valuable Ideas in Design of Pipe Stills

THE pipe still is gaining ground steadily in the oil industry because of its superior efficiency. It is relatively new, however, and there are many men in the business who have not studied its possibilities, particularly from the standpoint of design, deeply.

Seldom if ever has there been published as complete and thorough study of pipe stills as the paper of Mr. Broido, we believe. On account of its length National Petroleum News is publishing it in installments of which this is the first. Mr. Broido suggests some changes in pipe still design that would make of it a boiler as well, generating useful steam and at the same time, regulating the temperature to the desired point where it would occasion less burning of the oil and less oxidation of the tubes.

In the second installment, to be published next week, Mr. Broido discusses heat transmission in the pipe still.

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which to bond the wall. It is always advisable that firebrick be obtained with as close uniformity in dimensions as possible, so that the amount of joining material may be reduced to a minimum.

Fireclay brick begins to soften at 600 to 800 F. below its melting point. With low settings this is not important, because the surface exposed to high temperature is small and the superimposed loads light. However, for larger pipe stills with adequate furnace volume for proper combustion, this characteristic of firebrick must be given due consideration. An effective remedy is the air-cooled wall. Many refinery engineers are of the opinion that because high temperatures are not desirable in pipe-still furnaces, pre-heated air would be of no value—in fact, that it is rather a menace. This is entirely contrary to facts.

The lower the efficiency of a furnace and the lower the furnace temperatures, the more benefit will be derived or the more fuel will be saved by preheating the air.

Losses Calculated

FIG. 1 gives a graphic representation of the efficiency of a pipe still and also shows the separate losses for different furnace temperatures or different percentages of CO_2. It is based on 60 F. for air entering the furnace and on 600 F. exit-gas temperature.

Part of the heat produced is lost in the flue gases passing through the stack. In order to account for this loss we must know the temperature of the exhaust gas, the heating value, and volume—and consequently the analysis of the fuel and gases—as well as the amount of the excess air or surplus air. This loss is represented in the illustration as area q_1.

Some heat is lost due to the moisture from burning of hydrogen, which moisture is evaporated and passes with the flue gas through the stack. The latent heat of the vapor is a direct loss. It is represented in the illustration as area q_2.

Part of the heat is also lost through radiation from the hot furnace walls and roof. This loss is very difficult, if at all possible, to determine directly. It can be found only by very careful tests and computations of heat balances. This loss is designated by the area q_3.

The area n represents the heat utilized or imparted to the oil. Depending upon the temperature of the flue gases, it varies from 35 to 60 per cent of the total heat of the fuel burned. The efficiency, or the percentage of the total heat of the fuel utilized, depends also upon the cleanliness of the tubes inside and outside, upon the relation between the amount of gases and the amount of heating surface passed by them, and upon the arrangement of the heating surface. The more heating surface passed over by the gases and the more intimate the contact between the gases and the heating surface, the more the heat absorbed from the gases, the lower the exit-gas temperatures, and the more the heat of the fuel utilizes for heating the oil.

Ways To Increase Efficiency

AT a comparatively low temperature in the furnace, or between 1400 to 1800 deg. fahr., a maximum efficiency of 50 per cent will be obtained. In other words, only a half of the heat available in the fuel is utilized. Fortunately there are two ways of increasing the efficiency of a pipe still, but these are arrived at from different directions. The stack losses can be reduced, first, by returning a part of the flue gases to the furnace. Second, gases of higher temperature can be generated in the furnace, but before coming in contact with the oil tubes their temperature can be reduced by utilizing their heat for other purposes. The following example will show the saving in fuel that can be accomplished by turning

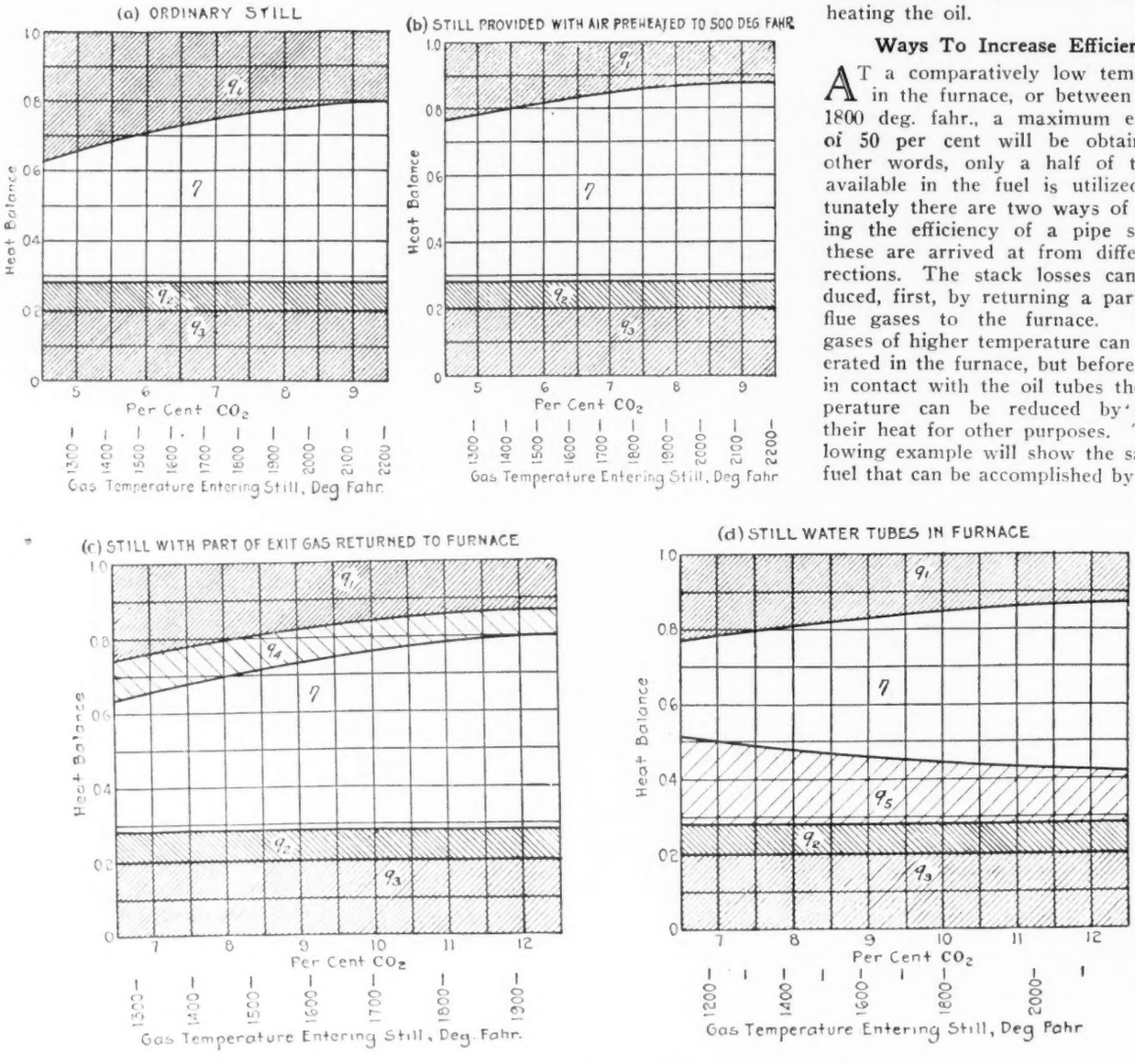
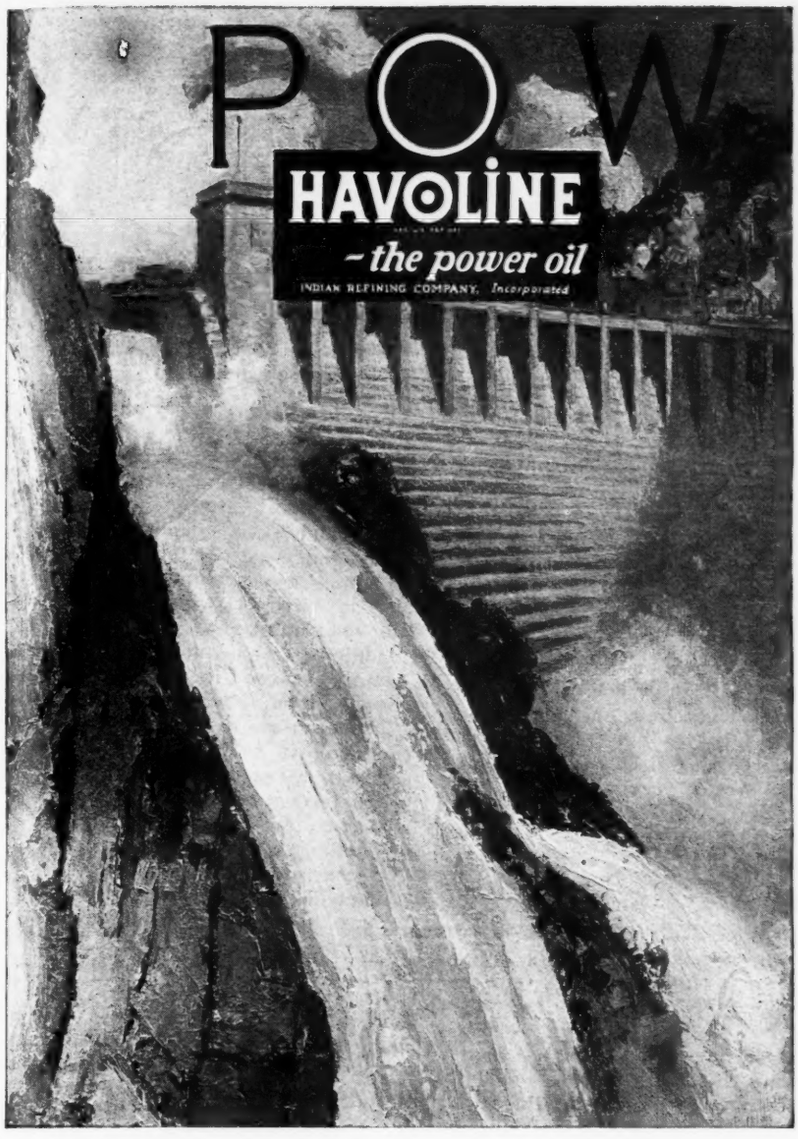


FIG. 1 GRAPHIC REPRESENTATION OF THE EFFICIENCY OF A PIPE STILL

(η = efficiency of still; q_1 = stack loss; q_2 = loss due to moisture from burning hydrogen; q_3 = radiation loss, q_4 = proportion of heat returned to furnace from extra gases; q_5 = proportion of heat absorbed by water tubes.)



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some of the exit gases back to the furnace.

Assuming a pipe still for heating or cracking 2000 barrels per day with a fuel consumption of 5 per cent or 100 barrels a day, or about 1350 pounds of oil per hour. Under normal operation the temperature of the gases reaching the steam tubes will not be over 1500 F. In order to burn oil of about 18,000 B.t.u. per pound and have the resulting gases at a temperature of 1500 F. with 85 per cent furnace efficiency, it is necessary to have 45 pounds of gases per pound of oil or 200 per cent of excess air, with a resulting efficiency of the still of 40 to 50 per cent. The lower efficiency is due to the fact that the 200 per cent of excess air which is used has to be heated from atmospheric temperature to 1500 F. However, only a part of the heat can be utilized in the still as the flue gases leave the tubes with a temperature of about 700 F., containing nearly half of the heat.

When the 1350 pounds of oil is burned with 200 per cent of excess air, approximately 6100 pounds of gases will result, and, as already mentioned above, at a temperature of 1500 F. Assuming that 35 per cent of the flue gases can be returned to the furnace at a temperature of 700 F., the other 65 per cent of the flue gases will have to be at a temperature of 1950 F. in order to have the same amount of gases at 1500 F. To bring this 65 per cent of gases to the temperature mentioned, however, only 1080 pounds of oil will be required. In other words, with this proposed arrangement there will be the same amount (6100 pounds) of gases at a temperature of 1500 F. at the entrance of the still, but only 1080 pounds of oil will have to be burned, which means a saving of 270 pounds per hour, or 19½ per cent. With the present price of fuel a saving of 19½ per cent should be a very attractive proposition, even for oil refineries. As a matter of fact, the saving may be slightly more, due to the higher furnace temperature and more favorable conditions for combustion of the fuel.

Gas Recirculation to Cool Tubes

ANOTHER advantage is claimed for this arrangement. From experience with pipe stills we know that the tubes which burn out first are those located nearer to the furnace walls, as they receive heat from the furnace as well as radiant heat from the brickwork. At least a part of the returning gases could be introduced into the furnace near those tubes, and would to a certain extent cool them. While this could also be done in a regular furnace, it would, however, reduce the efficiency. Besides, no operator would like to have cool air introduced directly below the steam tubes.

In every refinery great quantities of steam are required, and this is usually generated in one or more boiler houses and thence distributed to the places of use. In some cases steam has to be conducted for a considerable distance from the boiler house to the steam stills. The efficiency of a pipe still could be increased considerably if the fuel could be burned in the furnace with a low percentage of excess air and a resulting high temperature of the flue gases, but in order to reduce the temperature before entering the oil tubes, one or more rows of water tubes could be installed and the steam generated in these tubes.

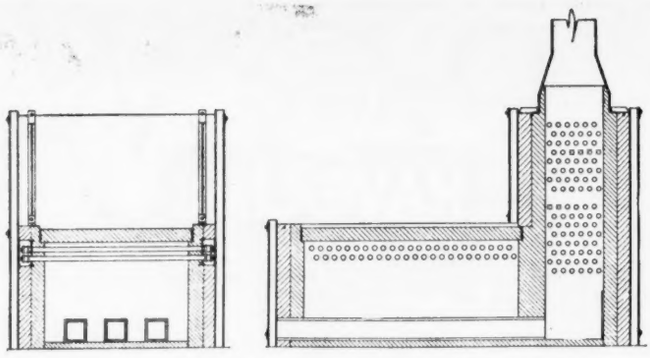

Fig. 2—Pipe still with carborundum furnace.

Assuming the same example as before: If 6100 pounds of gases per hour are generated in the furnace at a temperature of 2000 F., 1500 pounds of oil will have to be burned in the furnace. If the water tubes cool the gases 500 degrees, the latter will enter the pipe still as in the previous example with a temperature of 1500 F., leaving the tubes at 700 F., with the gases cooled from 2000 down to 700 F.; and with a furnace efficiency of 85 per cent as before, the total efficiency of the oil and water tubes will be 72 per cent instead of 50 per cent where the gases are generated directly in the furnace with a temperature of 1500 F. Taking into consideration, however, the fuel which would be required to generate the same amount of steam in the boiler house, it will be noted that a much better utilization of the heat available in the fuel is accomplished.

Fig. 1-*b* is a graphic representation of the efficiency of a pipe still similar to Fig.1-*a*, but with the air for combustion preheated to 500 degrees, either in the brick wall or by a separate air heater utilizing the heat of the escaping flue gases.

Comparative Efficiencies

FIG. 1-*c* shows the efficiency of a pipe still with 35 per cent of the exit gases returned to the furnace, while Fig. 1-*d* represents the efficiency where water tubes are placed in the furnace ahead of the oil tubes.

Area q_4 indicates the increase of efficiency due to the returning of the flue gases, and area q_5 that due to the water tubes.

Another and better method of utilizing the heat of the fuel with a comparatively low furnace temperature would be to absorb as much heat as possible by radiation. While advantage is taken of this method in steam boilers, experience has shown that it is not advisable to subject oil tubes directly to the flame of the furnace. In more recent years a furnace design has been proposed which makes it possible to take advantage of the radiant heat without exposing the gases directly to the flame of the furnace. This furnace is known as the "carborundum" furnace. Fig 2 shows a pipe still provided with this type of furnace. The furnace is an internally fired combustion chamber made from a material consisting mainly of carborundum. Carborundum, being made in electric furnaces, will stand up under any temperature and under all ordinary conditions, and if allowed to radiate its heat will be good for continued use even over a period of years.

Carborundum has a high factor of heat conductivity, so that the heat generated within the furnace is quickly transferred through the walls from which it is being transmitted by radiation. It is claimed that fully 50 per cent of the heat generated can be made effective as radiant heat, so that the heat of the gases leaving the furnace is materially reduced. It is also claimed that the material used for this furnace is very dense and strong. The impinging action of the burner flame, therefore, has no effect upon it. The carborundum furnace can be made in almost any reasonable size. The standard sizes are capable of burning from 2 to 100 gallons of oil per hour. They vary in cross-section from approximately 6 square inches to 3 square feet. They can be set up in lengths of from 3 to 30 feet.

How Carborundum Furnace Is Fired

THE furnace is usually fired in the bottom section, combustion starting close to the burner tip and progressing through the entire length toward the back. If it is necessary to burn more fuel than the capacity of a single carborundum furnace will provide, two or more furnaces should be installed. It seems that with this furnace less excess air will be necessary than in general practice. A higher CO_2 content can be obtained with the same temperature of the gases reaching the oil tubes. Due to the fact that a portion of the heat generated by the combustion of the fuel is transmitted through the walls of the furnace and absorbed by oil tubes as radiant heat, the actual temperature of the gases leaving the carborundum furnace is materially reduced, so that the pipe still can be so arranged that gases of a desired comparatively low temperature will come in direct contact with the oil tubes. At the same time, however, a considerably better utilization of the fuel in the furnace can be accomplished.

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TWO-WAY SWING JOINT

Fig. 904

Distinctive for its simplicity of design—iron ell and collars—octagon shaped brass nipples—special composition seats—can always be kept tight—sturdily constructed yet not heavy or bundlesome—standard equipment on all Leader Tank Car Unloading, as well as Truck Tank Loading Racks.

Size, 2". Weight, 12 pounds.

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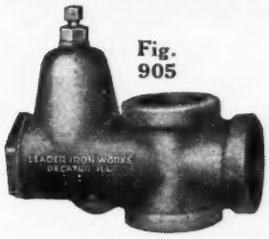

Fig. 905

Unexcelled for gasoline or oil by-passing—special iron body and seat—rustless steel valve and stem—sturdily constructed—designed for installation into discharge line reducing fittings to a minimum—its compensating action positively prevents bulding up a pressure beyond the one at which it is set—it opens and closes completely with a snap—automatically cleans its seat—is dependable at all times—no more groaning or sticking while opening—no leaks causing reduced volume when closed. Possible pressure setting on stock valve, 10 lbs. to 75 lbs.—standard equipment on all Leader two-way pump fittings. Size, 2". Weight, 8 pounds.

PRESSURE AND VACUUM VENT

Fig. 903

Brass body—removable iron cover—properly screened—is positive on both pressure and vacuum—so designed as to allow gauging through it—valve should be raised to keep out snow and water—our female thread and nipple does this.

Size, 2". Weight, 2¼ pounds.

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Producers - Pipe Lines
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HOUSTON, TEXAS

Bureau of Mines Getting Ready To Operate Shale Oil Plant

WASHINGTON

THE Bureau of Mines has purchased an American type 20-ton oil shale retort, known variously as the Dundas-Howes, or N-T-U retort, which will be erected immediately at the experimental oil shale plant of the Bureau near Rulison, Col. The new retort will be erected alongside, and operated in parallel with, the bureau's Pumpherston retort of the Scottish type, which is now being heated in preparation for the beginning of experimental operation.

Laboratory experimental work of the Bureau of Mines on oil shale, extending over a period of six years, has indicated two entirely different methods of producing refinable oils from oil shales. Both methods are fundamentally sound, so far as can be determined by laboratory investigation. In the first method, the shale is heated slowly and enough scavenging steam or gas passed through the distilling mass to prevent undue decomposition of the oil. This method results in a relatively low yield of crude oil of relatively high quality, and a relatively low yield of fixed gas of relatively high heating value. The crude oil so obtained can be sent to the refinery stills without further treatment.

In the second method the shale is heated rapidly, care being taken not to reach temperatures high enough to decompose the oils products, and a large excess of scavenging gas is passed through the distilling mass to remove distillation products as rapidly as they are formed. This method yields a maximum quantity of crude oil of relatively poor quality and a maximum volume of fixed gases of relatively low heating value. The crude oil so produced requires a preliminary coking distillation before going to the fractionating stills, but either method, properly operated, apparently will produce the same results in finished oil products.

Engineers of the Bureau of Mines, in making a selection of retorts for the experimental oil shale plant, took into consideration, first, the desirability of having equipment which would carry out the two different methods of distillation; second, sufficient flexibility of control so that distillation temperatures, distillation zones, gas velocities, etc., could be readily varied and controlled; and third, mechanical simplicity.

The Pumpherston retort, the result of over 70 years of practical experience in oil shale retorting in Scotland, exemplifies slow distillation, and the N-T-U retort, under development in large scale units for over three years in California, exemplifies rapid distillation. Both retorts are flexible in control, and both mechanically simple.

The Pumpherston retort is apparently particularly suited for relatively low grade shales and the N-T-U retort will probably show to best advantage on richer shales. In the opinion of the engineers of the bureau the two retorts form an admirable combination of experimental equipment for the chief purposes of the retorting investigation, i. e., (1) to transpose to retorting units of commercial size the conditions determined by laboratory study most suitable for producing maximum amounts of refinable products; and (2) as large scale study directs, to modify these conditions so as to produce best results at lowest cost.

The experimental plant is complete, except for the erection of the N-T-U retort and its auxiliary equipment. It is expected that the Pumpherston retort will be put into operation about August 15, and the N-T-U retort about September 15.

Construction to date has been carried on, and all equipment, including the N-T-U retort, has been purchased with the initial $90,000 appropriation made available March 3, 1925. An additional appropriation of $89,000 became available July 1 for plant operation during the fiscal year 1926-1927.

The plant consists of the two retorts and their auxiliary equipment (condensers, scrubbers, exhausters, measuring instruments, piping, etc.); water supply system, which pumps water from a well near the Colorado River 1½ miles to a storage tank at the plant; 70 H.P. boiler plant (2-35 H.P. boilers) equipped for coal or fuel oil firing, 5. K. W. turbo-generator set for plant lighting and laboratory power; 40 H.P. gas producer for starting and stand-by gas supply; 3-25-barrel oil run and separating tanks; 2-250-barrel storage tanks; 1 - 25-barrel fuel oil tank; small pipe still with 25-barrel fat and lean oil tanks, condensers, cooling sections, etc., for recovering scrubber gasoline; machine shop and store room; control laboratory; quarters for plant employees; a 5600-foot aerial tramway for transporting shale from the mine to the plant, with necessary terminal machinery; oil shale crusher and storage bins and chutes.

The organization of the oil shale section is part of the petroleum division of the Bureau of Mines, under H. H. Hill, chief petroleum engineer, and consists of the following staff:

Martin J. Gavin, refinery engineer, in charge oil shale investigations, Bureau of Mines.

J. S. Desmond, associate chemical engineer, in charge construction and operation, experimental oil shale plant.

Frank A. Dalburg, in charge of mining operations.

J. W. Horne, associate chemist, in charge cooperative oil shale research laboratory, Boulder, Col.

I. N. Beall, associate refinery engineer, in charge experimental oil shale refinery.

D. A. Gould, assistant engineer, experimental oil shale plant.

B. A. Landry, assistant engineer, experimental oil shale plant.

R. S. McIntyre, assistant engineer, experimental oil shale plant.

W. L. Finley, assistant engineer, cooperative oil shale laboratory, Boulder, Col.

New Handbook Published on Oil Burning

CLEVELAND, Aug. 21.—The American Oil Burner Association has just published a "tentative edition" of the "Handbook of Domestic Oil Burning" which was authorized at the annual meeting of the association in Detroit last April. The book contains 224 pages covering all phases of oil burning and burner installations.

Chapter headings are: heating requirements—infiltration; humidity—seasonal heating demands; methods of heating—warm air heating requirements; radiators and radiation; hot water and steam heating systems; relation of burner to heating system; oil as a fuel; fuel oil combustion; domestic oil burners; equipment for oil burners; comparative fuel costs; ordinances and hazards of oil burning, and oil burning and the architect. The book also contains definitions and a glossary of terms encountered in the oil burning industry, several recommended forms of contracts between burner dealers and customers, and tables.

Of course, the handbook is designed primarily for the manufacturer and dealer in oil burners, and the heating engineer. It might interest the marketing company that expects to handle furnace and domestic fuel oils and, to some extent, the refiner.

The editors point out that the book is a pioneer and much room is left for improvement. That is why the present volume is called a "tentative edition." The price of the book is $1.50 to members of the association and $2.75 to nonmembers. The association's address is 350 Madison Ave., New York.

Continental Going to Tulsa

KANSAS CITY, Aug. 19.—Division offices of the Continental Oil Co. in charge of distribution are to be moved to Tulsa in the near future. The third floor of the new court Arcade building at Sixth and Boulder Sts. have been leased by the company. Tank car sales offices under the management of Joe Walsh probably will be retained in Kansas City as before.

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Filter Presses — *Wax Moulding Presses*
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Complete Wax Plants designed and built
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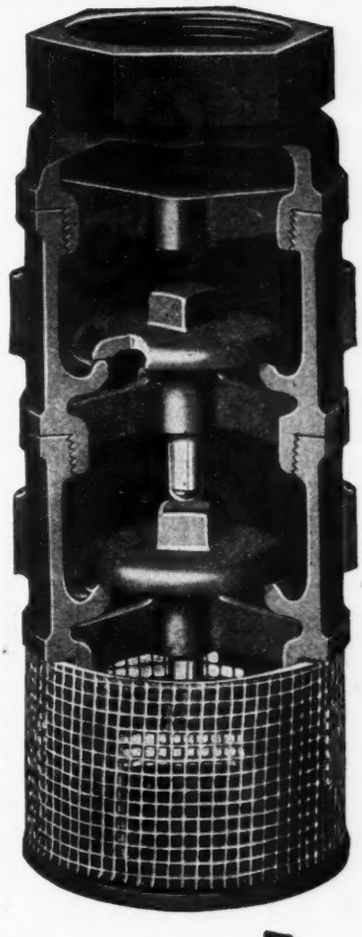
GENERAL SALES OFFICES: 25 BROADWAY, NEW YORK CITY

Discs *are the only movable parts*



ONE of the many reasons why Buckeye Foot Valves are so popular is the fact that there are no nuts, cotter pins, or loose pieces. There is nothing to get out of order. The discs are the only movable parts.

These valves are made with *flat* seats and *flat* discs which design has long been recognized as the best ever developed for holding gasoline. The valves are made in single and double poppet types, sizes ¾" to 2" inclusive.

Every Buckeye Foot Valve is subjected to a bubble test before leaving the factory.

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Please send me further information and prices for Buckeye Service Station Equipment.
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Ludlow Double Gate Valves are the result of 60 years intelligent study and experiments of valve problems.

We have been making valves since 1866. *We know how valves should be made and make them correctly.*

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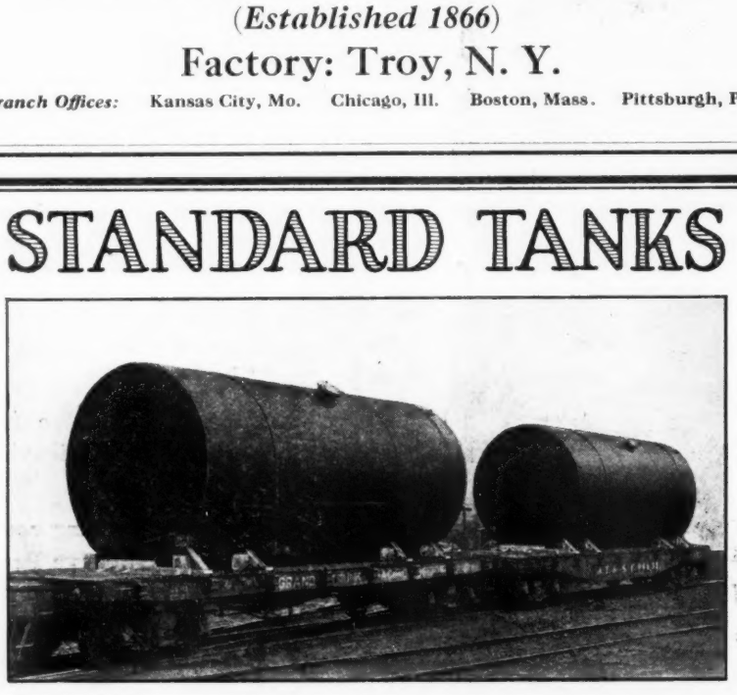

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Details, Prices and Delivery Dates on any kind of Specified Installations by return mail.

STANDARD BOILER & PLATE IRON CO.

at NILES, OHIO.

Thank-You Cards Build Up Station Trade

CLEVELAND, Aug. 21.—If you appreciate a man's business he is always glad to know it. That is the policy of Howard B. Holmes, proprietor of the Sinclair Service Station at Hudson, Iowa. Recently Mr. Holmes had a number of government post cards printed with the following:

"We appreciate and thank you for the business you gave us when you were in Hudson. Stop often and get better acquainted and take advantage of any item of service you may desire."

These cards are mailed out to customers living in the vicinity who had stopped at his station for the first time. Mr. Holmes has built up a regular patronage as a result of these cards of thanks. "There are quite a number of salesmen and collectors," says Mr. Holmes, "who make regular trips past my station and they always come to me for their motor requirements. Quite a few of them have remarked about the cards I sent to them and were pleased to think I took the time to tell them I appreciated their business."

Another post card which Mr. Holmes used contained an invitation to attend the weekly band concerts held at Hudson, adding incidentally that the recipient was also invited to stop at his service station and fill his automobile with gasoline or oil before or after the concert. These cards were mailed to all residents on and leading off the main road between Waterloo and Hudson, on which Mr. Holmes' station is situated.

An instance where an unusual card, that contained sincerity of purpose, was used by Mr. Holmes happened shortly after his bank in Hudson had failed. It read as follows:

"We have recently had a bank failure in Hudson and all of our funds are tied up. We desire to continue in business and operate this station, offering the same high quality merchandise and service that our friends and patrons have been accustomed to receive here. In order to do this we invite your cooperation by giving us as much of your business as possible to help this station and community recuperate from this loss. We wish to thank our friends and patrons for the business given us in the past and assure you that it will be doubly appreciated now."

Such an appeal sent out brought such excellent returns that the loss sustained by the bank failure was more than offset, according to Mr. Holmes. He used this card only with patrons whom he knew would understand his purpose.

VERDE, ARIZ.—The Verde Motor Co., agent for the Star car in the Verde district, has leased a garage and service station in Jerome, Ariz. from the Upton Oil Co., according to Howard A. London, Verde district manager for the latter.

Montreal Has Super Service Station Patterned After California Type

By George F. Foss
Automotive Utilities Ltd., Montreal, Canada

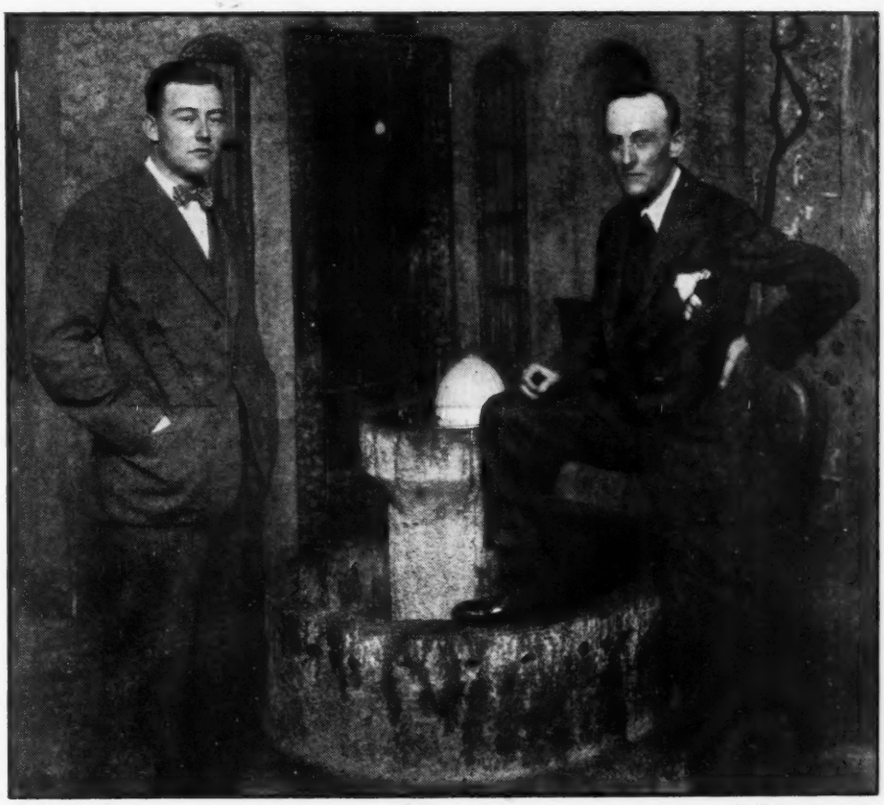
MONTREAL, QUE.

PATTERNED along the lines of the California super service stations and using the most modern equipment, the new auto laundry and super service plant, which has just opened its doors in Montreal, Canada, is the result of almost two years of research and study on the part of the promoters, George F. Foss and his son, Marshall M. Foss, and is another step ahead in this business of beautifying and preserving automobiles, which has been making such rapid strides during the past few years.

Located in Montreal's new automobile row building, in the heart of the automobile district with ideal entrance and exit facilities at opposite ends of the plant, it is a very fine location for a super service station. The laundering of cars is handled on the progressive system, similar to most large plants of its kind, except that in this case, the idea has been carried still further, leaving little to be desired.

Upon driving into the plant, the customer is greeted by a salesman, who enters the work to be done on a job ticket, which carries a list of the various services with their prices, and which is hung on the car in a leather holder, at the same time giving the owner a claim check, whereupon he is either ushered to the waiting room, taken on a tour of the plant or watches the cars being laundered.

The car, meanwhile, is passed to the first operator who cleans and polishes the top. The car is then run on to a turn table, where it is turned at right angles to the entrance and the interior and upholstering thoroughly cleaned with compressed air, the dust being sucked out of the building by a large exhaust fan. When this is completed, the car is pushed on to the cleaning line between glass partitions.



George F. Foss and his son, Marshall M. Foss.

Electric Lift Used

HERE it is raised by means of a new automatic electric lift rack, which, by the way, is an invention of George F. Foss, and which has proven very successful. This lifts the car by the axles to a sufficient height to permit of easy access to all parts of the chassis and permits the wheels to be rotated for easy cleaning.

Four men clean underneath thoroughly by means of the well known "Klean-Rite pressure vapor and soap solution," so that the parts usually neglected are as clean as the parts that are seen. While the car is in this position a man on each side of the car sprays the springs, body pads, shackle bolts and between the fenders and body with a high pressure spray of penetrating oil.

Next, the car is lowered to the floor level and pushed on to two body washers who rinse and sponge the body, using nothing but a combination of hot and cold water, thus preserving the finish to a marked degree.

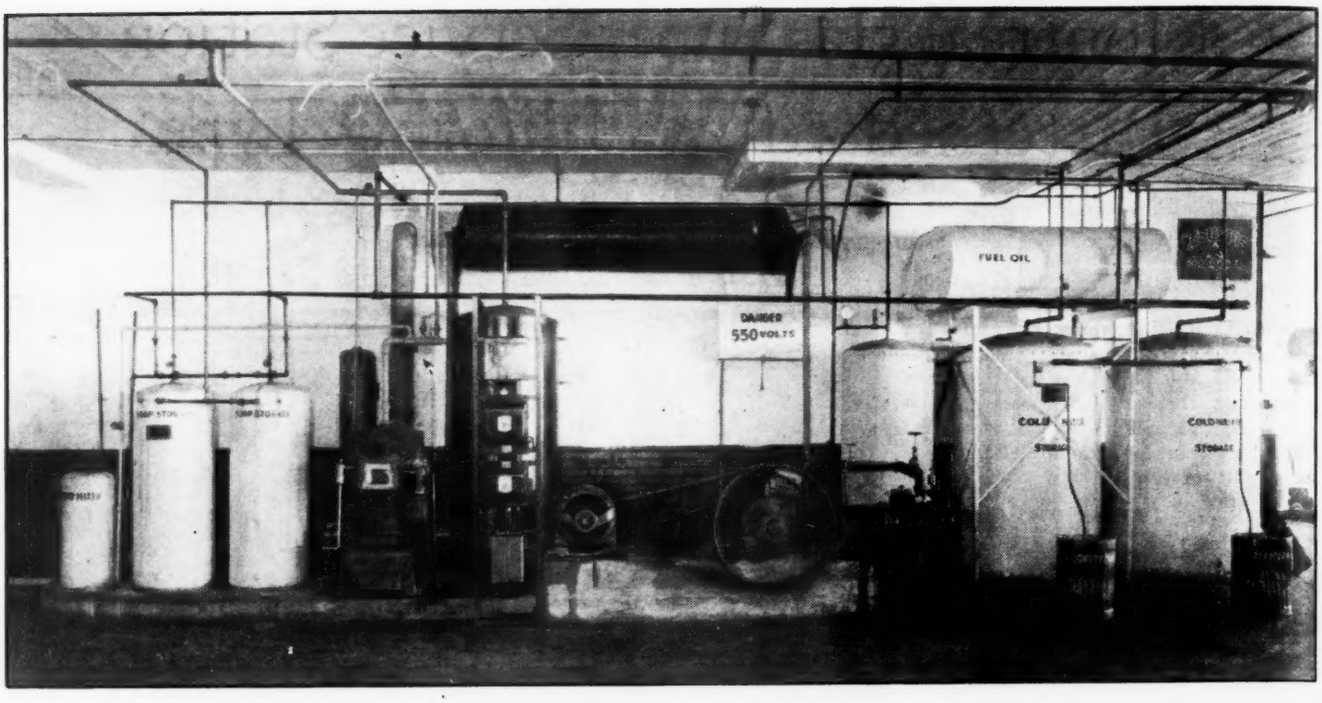
From here, it is run on to the chamoising department where three men chamois the body and clean the windows, while two men polish the nickeled parts, giving an extra high lustre, with electric buffers. Finally, the car passes the inspector, who O.K.'s the work and blows off any surplus water on the chassis or around the hood, etc., with a compressed air gun. By this time, the car is standing spick and span outside of the waiting room door, and unless it is to be switched to one of the other departments for further service, the customer pays his bill, is given his receipt and sent on his way rejoicing.

The Washing Equipment

The washing equipment consists of the following:—Two Ingersoll-Rand horizontal compressors with two large air receivers coupled together; a 6 x 6 which maintains an adequate supply of air for all requirements and a 5 x 4, which is used as an auxiliary, when maintenance work requires shutting down the large compressor, thus guaranteeing a continuous supply of air.

Cold water is supplied at high pressure by means of two cold water vaporizers and two 450-gallon tanks, which are used alternately. A Clayton superoil burner, equipped with a 250-gallon storage tank has a capacity of 420 gallons of hot water per hour, filtered crank case drainings being used as fuel.

Soap solution and grease solvent, two of the features of the system, are made in the automatic soap and grease solvent mixers and stored in two alternating soap tanks. The five materials, hot and cold water, soap solution, grease solvent and air are piped to each corner of the chassis washing department, where the pipes converge into a mixing chamber, where any combination may be obtained, by means of quick action valves, and thence through the hose, which is equipped with a special



Installation for washing cars at the Foss plant in Montreal.

nozzle. In this way, all materials used on the car are applied in vaporous form.

Splashing Eliminated

THE wash rack itself is 45 feet long and 15 feet wide, drained from either end to the center into a catch basin three by two feet. The tracks for the wheels of the cars slope down to the finishing end, permitting the cars to be pushed along with very little effort. The side walls are five feet high and run the full length of the rack with metal sash to the ceiling, so that customers may watch their cars being washed without any danger of being splashed.

The lighting arrangements for the cleaning line, as well as for the lubrication department, are the result of considerable study and experiment, it being realized that heretofore the lighting had been a weak point of many washing plants. As the result of this study, 34 special holophane vapor proof globes, using 100 watt lamps, are suspended from the ceiling at a height of eight feet from the floor level, and at an angle of 15 degrees towards the object. Among the strong points of this system is the total absence of glare and the fact that it is possible to eliminate spot lights entirely, which not only throw heavy shadows but are cumbersome and take up valuable space. No lights, other than the ceiling arrangement, are necessary, which leaves the rack walls clear.

The turn table, where the cars are turned on to the cleaning line, was designed by Mr. Foss. It is 14 feet in diameter and is composed of quarter-inch plate supported in the center by a taper roller bearing and near the edge by a series of roller bearing casters, which run on two circular steel tracks.

In addition to the laundering department, which acts as a feeder for the business, the plant is equipped to supply everything except mechanical service. The lubricating department, which is unique, also uses the Foss automatic electric lift rack, lifting the cars four feet from the ground and enabling the operator to work unhampered by cramped space or lack of light. D. K. grease dispensers are used for filling alemite and similar nipples, as well as for transmission and differential lubricant. The new Fry flusher is used for flushing transmission and differential cases, assuring customers of correct lubrication at these points, and springs are lubricated with Vesuvius penetrating graphite.

Several Brands of Oil Handled

ALL popular brands of oil are handled, although Pennzoil far outsells all others. Motor cleaning, which is very popular, is also operated as a department and is taken care of with the Vesuvius engine cleaner. Simonizing is handled in one corner of the plant, which is curtained off for this purpose, and has proven very successful. Air service may be obtained at either end of the plant, Fry visi-flators being used and attractive notices inform customers that attendants will gladly check the air in their tires.

No one department is stressed more than the others, the whole scheme of things being to sell the customer on the idea of complete service, and he is shown how much service will cut depreciation costs to a minimum.

Callé Buenita, the Spanish street illustrated here, is an original idea of Mr. Foss for housing the tire, brake lining, electrical, oil and accessory departments, as well as the customers' waiting room. Suggested by the California Supers and carried out in different colored stuccos, with special lighting effects, a bubbling fountain and a flag pavement, it is a very unusual attraction; is extremely popular with customers and elevates these departments from the ordinary garage stand to an entirely new plane. The equipment in each of these stores is the very latest obtainable, such as the P. A. hydraulic speed up brake testers, which are used in the brake department and the tire expanders, etc., for tire work. Free brake testing is a good drawing card and brings lots of work to the brake lining store.

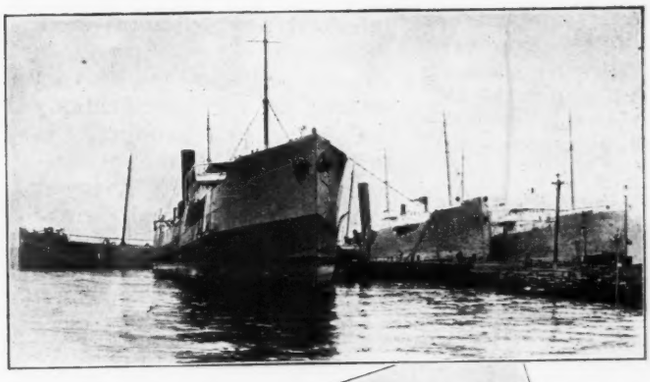
The company's colors are green, white and orange, and the scheme is carried out in everything in the plant; the walls and columns having a green wainscoting four feet high with a four-inch orange border and all signs and trimmings finished accordingly. The walls and ceilings are painted white, as well as the equipment, and the floor is kept painted with a special waterproof paint in battleship gray. All pipes are painted according to the material handled, that is, red for air, dark blue for cold water, light blue for hot water, dark orange for soap and bright yellow for distillate.

Operators' uniforms, which go a long way towards giving the plant a smart appearance, are designed to be consistent with the work done; the superintendents wearing white naval uniforms, the checkers, long white coats with caps, the greasers, etc., khaki unionalls with khaki caps and the washers white unionalls and caps. Cleanliness is the watchword of the entire staff and is proving to be a cheap method of advertising. The floors are scrubbed and a section painted every night, thereby maintaining that spick and span appearance, which goes big with the public.

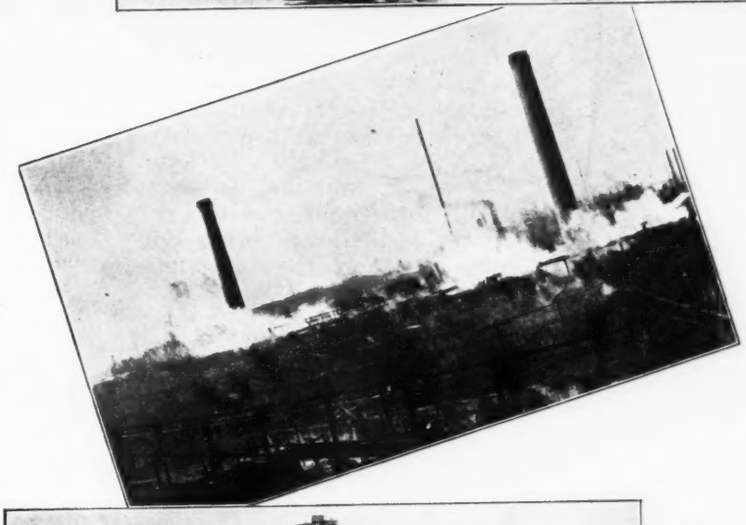
SUN OILS

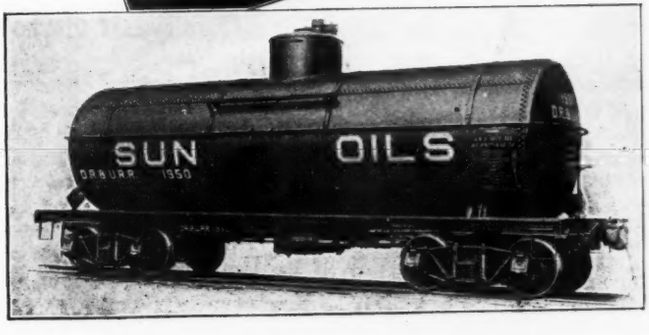
27,000 barrels every day

A few of the fleet of ocean tankers, carrying crude to the refinery, and bulk fuels and lubricants to foreign countries.



Section of Marcus Hook Refinery on Delaware River south of Philadelphia. One of three Sun Refineries. Daily capacity 27,000 barrels. Sunoco the wholly distilled Motor Oil is produced here.





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Approves Fixing Rates on Technical Specifications for Products

By A. E. Heiss
Washington N. P. N. Staff Writer

WASHINGTON, Aug. 20.

THE railroads propose, and have the apparent sanction of the Interstate Commerce Commission, to base their rates on petroleum products on technical specifications for such products, which would tend towards making a different rate for each product shipped from a refinery.

It is certain also that the effect of having a separate rate for each different producer would be to increase the annual freight bill the oil industry pays the railroads, to say nothing of complicating the tariff schedules. It is possible the tendency may be to narrow the range of products taking the lowest rates and widen the range taking higher rates.

The specifications the commission thinks the roads should use in laying out their tariffs on this new basis are those adopted by the government for its purchasing of oil supplies.

This first came to general knowledge less than a month ago in I. & S. Docket No. 2589, when the I.C.C., while it refused to approve the specific rate the railroads sought to impose on refinery tops shipped from California to Arizona, approved the principle the roads sought to set down of making a definite description or specification for this product and imposing a special rate upon it. The rate body said, "The proposed tariffs are a decided step in the right direction and are approved in principle."

In that decision the regulating body approved, in principle, the railroads making freight rates based on flash-point, gravity and distillation tests. It suggested that perhaps the Bureau of Mines would be glad to help them frame specifications describing the products.

Traffic Man Must be Chemist

AT present there is a minimum of technical description in the freight tariffs. The decision, it is believed, invites a maximum, so that the freight billing clerk will have to be either a chemist or will have to be advised by a chemist what he is shipping.

There are at present, broadly speaking, only two classes of rates on petroleum and its products: namely, refined products and crude, the latter including gas oil and fuel oil. In various parts of the country there are variations from those broad classifications. For instance, in California, there is a classification between kerosene and gasoline on the one hand and gas and fuel oil on the other, covering what is known as engine distillate. On engine distillate, from Los Angeles to Phoenix, for instance, the rate is 79 cents per hundred pounds, while the rate on gas oil is 38.5 cents, on gas and crude oil 36 cents and on what are generally known as refined oils the rate, until recently, was 98.5 cents. It has recently been reduced to 80 cents, by order of the Commission, and other rates, if they have not gone down, will be expected to move downward in sympathy with it. There is also a rate of 36 cents on road oil, the same as on crude.

HOW far the railroads may go in revising their rates on petroleum products to include separate rates for various products, themselves setting up the specifications defining the product, is brought out in the accompanying article by National Petroleum News' representative at Washington, who is the authority among writers in the Capitol on rate matters.

While the railroads have shown a tendency to increase the number of petroleum products specifically defined and carrying their own particular rate in recent years, it remained for a recent decision of the Interstate Commerce Commission to show their further plans in this regard, and also to bring out the fact that the Interstate Commerce Commission apparently approves this move.

Tendency Will Be Upwards

IN other parts of the country there have been rates on unfinished products, such as for instance raw naphtha and unfinished kerosene intended to accomplish specific purposes. Such rates, it is the belief among men familiar with the desire of railroads always to put up rates, will go up when the Commission's invitation to make rates based on laboratory specifications has been generally accepted by the railroads.

The specific purpose of such rates is to allow not fully integrated refineries, whether called topping or skimming plants, to bring to themselves the products they need for further processing, or to ship out products to other refineries for further processing.

A few years ago the government tried to impose a penalty of hundreds of thousands on the Gulf Refining Co. and send C. B. Ellis, its traffic manager, to the penitentiary for having shipped what it said was casinghead gasoline, or something of that sort, under a rate applicable on raw naphtha. The Gulf and Ellis defeated the government, however, by showing that the description under which the shipments were made covered what they had shipped.

The effort of the railroads has been to classify everything either as a refined product or crude. They have been disinclined to accord recognition to the fact that, economically, it is better for some plants to ship part of their product unfinished to some other plant, than to do the finishing themselves.

Will Apply Refined Rates

THIS decision will give them an excuse for trying to narrow the range of products that may now be [illegible] as gas oil and apply the refined rate to them.

Classification of petroleum and its products by means of flash, gravity and distillation tests, it is believed, will present as many questions as determining when iron becomes steel or when a male child ceases to be a boy and becomes a man. The railroads are uncertain, as may be seen from the course they pursued in making up specifications for application on "refinery tops" shipped from the California fields to the refineries in Arizona and New Mexico, which need raw material to convert into gasoline, kerosene, engine distillate and gas oil. They do not need the whole crude produced in California, because they have no such demand for fuel oil as there is on the Pacific coast. Under the schedules approved in principle, the Arizona and New Mexico refineries must take the whole crude, or pay the gasoline rate on their raw material.

Rate schedules based on laboratory specifications, it is believed, will result in confusion, to say the least. When the railroads had their first inspiration they suggested the following as specifications to apply on California products moving into Arizona:

Petroleum Crude Oil: A natural petroleum product as it comes from the ground, untreated, or treated only for removal of water or sediment.—Rate 36 cents per cwt.

Petroleum Fuel Oil: A petroleum oil (except petroleum crude oil), not otherwise indexed by name, of specific gravity 1.000 to .8707, inclusive; American Pe-

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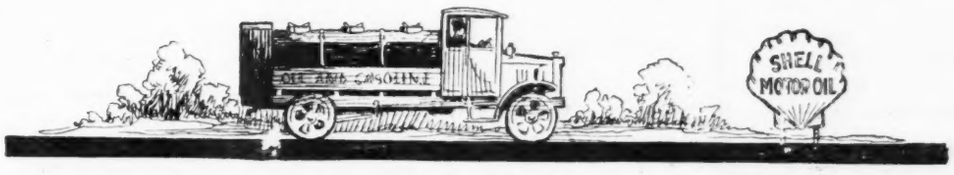

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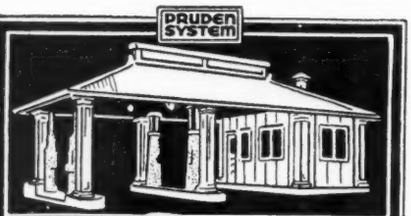

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troleum Institute gravity 10 to 31, inclusive.—Rate 36 cents per cwt.

Petroleum Gas Oil: A petroleum oil, not otherwise indexed by name, of specific gravity .8707 or less; American Petroleum Institute gravity over 31; flash point, determined by Tagliabue's Open Cup Tester, higher than 80 degrees Fahrenheit. (Shipper must certify on bill of lading that the flash point is higher than 80 degrees Fahrenheit.)—Rate 38.5 cents per cwt.

Engine (Naphtha) Distillate: A petroleum crude oil product, produced by distillation, flash point, determined by Tagliabue's Open Cup Tester, lower than 80 degrees Fahrenheit, (Will not apply on Petroleum Refined Oil (illuminating or burning), Gasoline Benzine or Naphtha.)—Rate 79 cents per cwt.

During the hearing the railroads suggested the following amendments to the proposed descriptions:

Petroleum Gas Oil: A petroleum crude oil product, not otherwise indexed by name, from which volatile fractions have been removed, produced by distillation, gravity over 31, to and including 36, A.P.I. (American Petroleum Institute,) flash point, determined by Tagliabue's Open Cup Tester, 135 degrees F. or higher. Shipper must certify on bill of lading that flash point is 135 degrees F. or higher.

Engine (Naphtha) Distillate and/or Distillate, Untreated: Refinery Tops, for further refining. A Petroleum Crude Oil Product, produced by distillation, flash point, determined by Tagliabue's Open Cup Tester, lower than 80 degrees F. (Will not apply on petroleum refined oil, (illuminating or burning), gasoline, benzine or naphtha).

It is understood the far western railroads are working on schedules that will comply with the suggestion made by the regulating body, but nothing has been received from them either as to how soon they will be able to present schedules or what these schedules will contain.

A thought on the subject is that the refiners who protested against the move to make them pay engine distillate rates on tops and thereby created the case that may prove extremely troublesome to the industry on account of the approval of the principle of rate making will take an appeal from the division of the regulating body that made the decision to the whole body. They have the right to do that, but, inasmuch as the time in which they must act has not expired, it cannot be said they will or will not take an appeal.

Other Complications

OTHER refiners may be brought into the case by the remark of the Commission that engine distillate is a refined product and needs no further processing. The railroads, if they act on suggestions, will therefore put the rate on engine distillate up to the rate on gasoline, and thereby involve in the case refiners who have been turning out a fuel for internal combustion engines not as highly refined as gasoline and getting the railroads to move it at the rate set forth in the preceding paragraphs, much below the rate on gasoline.

In addition to pointing out that engine distillate is a finished product and therefore, by inference, not entitled to any rate lower than gasoline, the Commission pointed out the inconsistencies and shortcomings concerning the proposed specifications. Among other things it said:

"The proposed descriptions for fuel oil and gas oil contain specifications as to gravity but do not indicate that those gravities are to be determined at any particular temperature. Inasmuch as petroleum oils have different gravities at different temperatures, any specification in the tariff as to gravity should make it clear that gravity is to be determined at a certain temperature, which should be stated.

"The evidence does not establish that all fuel oils have gravities ranging from 10° to 31° A.P.I., and there are fuel oils which undoubtedly show higher gravities. Under respondents' proposed classifications shipments of the latter oils could not be made at the rate of 36 cents, or at the 38.5-cent rate on gas oils, but would be subject to the omnibus rate of 98.5 cents, even if shipped, invoiced, and used as fuel oils.

"Again, the evidence does not establish that all gas oils have gravities between 31° and 36°, and a gas oil having a gravity lower than 31° or higher than 36° could not take the fuel-oil rate of 36 cents or the gas-oil rate of 38.5 cents, or even the 79-cent rate, because of its flash point, and would thus become subject to the omnibus rate of 98.5 cents.

"It will be observed that the flash point under the proposed description of "Engine (Naphtha) Distillate ***" is lower than 80° F., whereas the flash point under the proposed description of "Petroleum Gas Oil" is 135° F. or higher. Just what is supposed to be done as to oils having a flash point between 80° and 134° F., inclusive, is not explained, although it is quite obvious that they too would be subject to the omnibus rate of 98.5 cents."

Under the decision of the Commission in Mid-Continent Oil Rates, 1925, decided in the early part of July, a new rule was laid down for making rates on crude, fuel and gas oil in relation to rates on the refined products. They are to be 80 per cent of the rates on refined products.

It is believed that, unless the industry watches closely, the railroads will bring in descriptions that will eliminate all in-between rates, such as those on engine distillate and raw naphtha and put the two commodities mentioned definitely into the refined class, with an increase of 25 per cent.

Super Service Station Opened in Omaha

OMAHA, NEB., Aug. 20.—A super service station was opened here a few days ago by Municipal Gas Stations, Inc., which has headquarters in New York.

The station building occupies most of one side of a rectangular lot at 24th St. and St. Mary's Ave. and is about one-third as wide as the lot. In the medial line of the open space in front of the building are two raised islands on each of which are two 10-gallon gasoline pumps. A fifth pump is located on a small island at the street end of the lot.

The station building is of brick. It contains four rooms. The one at the end of the building furthest from the street intersection, is used as a car laundry and oiling and greasing rack with hydraulic lift. Next to it is a lunch room and soda fountain, then a tire and auto repair, and vulcanizing department. The room nearest the intersection is a salesroom for oils, tires and accessories. A women's rest room contains a lounge and writing table.

This is the second Municipal station in Omaha. The tire and accessories department is under the direction of a man who had been in that business in Omaha for many years. The lunchroom and soda fountain are operated by a chain lunchroom concern.

Oil Burner Men Set 1927 Convention Dates

CLEVELAND, Aug. 21.—The fourth annual convention of the American Oil Burner Association will be held April 5, 6 and 7, 1927, in Hotel Statler, Buffalo, N. Y.

Secretary Leod D. Becker, executive secretary of the association, has promised a program for the 1927 convention that will attract a great deal more interest than has been shown heretofore although the three previous meetings have been large.

Directors of the association have appropriated funds for the preparation and publication of an "Executive Manual" to deal with cost keeping, accounting, and other problems of management distributors and dealers encounter.

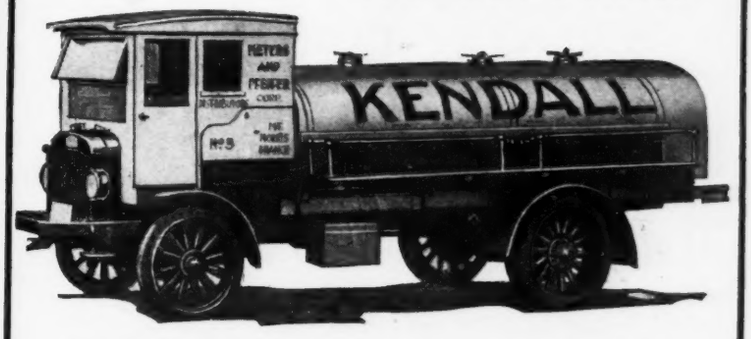
California Shipments to East Coast

LOS ANGELES, Aug. 19.—A total of 17,691,924 barrels of California petroleum products was shipped from Los Angeles harbor to the east coast of the United States in the first seven months of this year, as follows:

Crude, 8,626, 073; fuel, 3,346, 434; gasoline, 3,833,671; diesel, 688,383 and tops, 1,197,363.

All the crude shipped was refinable.

The Superiority of the Wooden Bolster



The automobile industry teaches us a lesson in the superiority of the wooden bolster over the steel frame. For years prominent automobile manufacturers have been experimenting with steel wheels, as a substitute for wooden wheels. Hundreds of thousands of dollars were spent with unsatisfactory results. Today practically all cars have returned to the heavy artillery type of wooden wheel. After 25 years the wooden wheel has a stronger hold on the industry than ever.

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National Petroleum News

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Roster of Oil Associations

American Association of Petroleum Geologists. Secretary, F. L. Aurin, Marland Oil Co., Ponca City, Okla.

American Chemical Society, Petroleum Division, Mellon Institute, Pittsburgh, Pa. Secretary, George A. Burrell, 1501 Columbia Bank Bldg., Pittsburgh, Pa.

American Gas Association, 342 Madison Ave., New York City. Secretary, Alexander Forward.

American Institute of Mining and Metallurgical Engineers, Petroleum Division. 29 West 39th St., New York. Chairman, Petroleum Section, F. Julius Fohs.

American Oil Burner Association, 350 Madison Ave., New York City. Executive Secretary, Leod D. Becker.

American Oil Chemists Society, 705 Tchoupitoulas St., New Orleans, La. Secretary-Treasurer, J. C. Helm.

American Oil Men's Association, 624 South Michigan Ave., Chicago, Ill. James A. Gilmore, Secretary and Manager.

American Petroleum Institute, 250 Park Ave., New York City Secretary, R. L. Welch.

American Society for Testing Materials, 1315 Spruce St., Philadelphia, Pa. Secretary-Treasurer, C. L. Warwick.

Arkansas Petroleum Club, Secretary, James P. Lavery, Petroleum Supply Co., ElDorado, Ark.

Arkansas-Tennessee Oil Marketers Association. Secretary, R. E. McKellar, care Diamond Oil Co., Memphis, Tenn.

Association of Oil Jobbers of Mississippi, Jackson, Miss. President, R. C. Clark, Independent Oil Co., Tupelo, Miss.

Association of Natural Gas Supply Men, Inc., 905 Oliver Bldg., Pittsburgh, Pa. Secretary, Guy F. Batchelor.

Association of Natural Gasoline Manufacturers, 504 A-B Cosden Bldg., Tulsa, Okla. Secretary, A. V. Bourque.

Association of Producers of Petroleum in Mexico, 17 Battery Place, New York, Director, Guy Stevens.

Association of Producers of Petroleum in Venezuela, 17 Battery Place, New York City. Director, Guy Stevens.

Chamber of Mines & Oils of California, 206 So. Spring St., Los Angeles, Calif.

Cincinnati Oil Club. Secretary, George H. Siemer, c/o Merchants Oil Co., Cincinnati, O.

Detroit Petroleum Club. Secretary, Frank McSweeney, Cities Service Oil Co., General Motors Bldg., Detroit, Mich.

Eastern Kentucky Oil Producers Association, Ashland, Ky. Secretary, David Browning.

El Paso Petroleum Club. President, A. L. Behringer, Home Oil Co., El Paso Tex.

Georgia-Alabama Independent Petroleum Marketers Association. Secretary-treasurer, W. L. Moore, Wofford Oil Co. of Georgia, Atlanta, Ga.

Greater Chicago Oil Men's Club. Secretary, Mel Keim, Apex Motor Fuel Co., 4555 W. 26th St., Chicago, Ill.

Gulf Coast Independent Oil Producers Association, 403 Goggan Bldg., Houston, Tex. Secretary, T. L. Smith, Jr.

Illinois Petroleum Marketers Association. Secretary, G. A. Primm, Chamber of Commerce Bldg., Springfield, Ill.

Independent Oil Men of America, 624 So. Michigan Ave., Chicago, Ill. (Advertising branch of National Petroleum Marketers Association.)

Independent Oil Men's Association of Massachusetts. Secretary, F. E. Bergfors, care Quincy Oil Co., Quincy Adams, Mass.

Independent Oil Men's Association of New England. Secretary, I. H. Farrar, Berkshire Oil Co., Worcester, Mass.

Independent Oil Marketers Association of Atlanta, Ga. Secretary, J. H. Smitha, care Community Oil Co., Atlanta, Ga.

Independent Petroleum Marketers Association of California, Inc., 930 Marsh-Strong Bldg., Los Angeles, Calif. Secretary and Manager, H. H. Maxson.

Indiana Independent Petroleum Marketers Association. Field Secretary, Sam T. Hurd, Connersville, Ind.

Iowa Independent Oil Men's Association, 225 Fifth St., Des Moines, Ia. Secretary, M. L. Long.

Kansas Oil Men's Association, 423 First National Bank Bldg., Wichita, Kan. Secretary, J. A. Motter.

Kentucky Oil Men's Association, Inc., 610 Trust Co. Bldg., Lexington, Ky. Secretary, Thomas S. Scott.

Michigan Independent Oil Men's Association, 1005 Grand Rapids National Bank Bldg., Grand Rapids, Mich. Secretary, James A. Gilmore.

Mid-Continent Oil & Gas Association, 505 Cosden Bldg., Tulsa, Okla. Secretary, Harry H. Smith.
Kansas-Oklahoma Division, 505 Cosden Bldg., Tulsa, Okla. Secretary, Harry H. Smith.
Louisiana-Arkansas Division, 724 Giddens-Lane Bldg., Shreveport, La. Secretary, Joseph B. Elam.
Texas Division, P. O. Drawer 1567, Dallas, Texas. Secretary, J. P. Laney.

Minnesota Petroleum Association, 638 Builders Exchange, Minneapolis, Minn. Secretary, Paul E. Hadlick.

Missouri Oil Men's Association, 217 Dwight Bldg., Kansas City, Mo. Secretary, George S. Allee.

National Association of Independent Oil Producers, 414 Atlas Bldg., Tulsa, Okla. President, William H. Gray.

National Gasoline Dealers Association, Inc., 280 Madison Ave., New York City. Secretary, Thomas P. McKee, Jr.

National Petroleum Association, Munsey Bldg., Washington, D. C. Washington Counsel, Fayette B. Dow.

National Petroleum Marketers Association, Blum Bldg., 624 South Michigan Ave., Chicago., Ill. President, L. V. Nicholas.

Natural Gas Association of America, 905 Oliver Bldg., Pittsburgh, Pa. Secretary, Guy F. Batchelor.

Natural Gas & Petroleum Association of Canada, Chatham, Ont., Canada. Secretary, S. A. Morse.

Nebraska Independent Oil Men's Association, 416 Terminal Bldg., Lincoln, Neb. Secretary, C. M. Sutherland.

New York State Oil Producers Association, Wellsville, N. Y. President, Lewis H. Thornton.

New York State Petroleum Marketers Association, 1201 So. Salina St., Syracuse, N. Y. Secretary, Benjamin A. Javitz.

North Central Ohio Petroleum Club, 489 Cherry St., Marion, O.

North Dakota Petroleum Association. acting head, H. M. Wilson, care International Oil Co., Minot, N. D.

Northwest Independent Oil Association. Secretary, C. H. Brown, care Arro Oil & Refining Co., Lewistown, Mont.

Northwestern Pennsylvania Oil Producers Association, 78 Main St., Bradford, Pa. President, A. Edward Booth.

Ohio Gas & Oil Men's Association, 811 First National Bank Bldg., Columbus, O. Secretary, William H. Thompson.

Ohio Petroleum Marketers Association, 616 Commerce Bldg., Columbus, O. Secretary, R. W. Palmer, Accurate Measure Oil Co., 1884 E. Broad St., Columbus, O. Field Secretary, W. C. Hughes

Oil Men's Association. Secretary, F. W. Mitchell, Clinton Oil Co., Cleveland, O.

Oil Trade Association of Philadelphia, Inc. Secretary, Howard M Rogers, 123 Arch St., Philadelphia, Pa.

Oil Trades Association of New York, Inc., 35 So. William St., New York City. Secretary, Joseph C. Smith.

Oklahoma Oil Jobbers Association, 416 Fidelity National Bank Bldg., Oklahoma City, Okla. Secretary, C. M. Kinney.

Oklahoma Oil Marketers, Inc., P. O. Box 755, Enid, Okla. Secretary, W. W. Blackburne.

Okmulgee District Oil & Gas Association, Okmulgee, Okla. Secretary, Charles I. O'Neill.

Osage Oil & Gas Lessees Association, 505 Cosden Bldg., Tulsa, Okla. Secretary, Harry H. Smith.

Pennsylvania Grade Crude Oil Association, 209 Chambers Bldg., Oil City, Pa. Secretary, R. J. Alexander.

Petroleum Club of Central New York. Secretary, George R. Casey, Crown Oil Co., Syracuse, N. Y.

Pierce County Independent Gasoline & Oil Dealers Association, Executive Secretary, J. H. Stine, 1009½ Pacific Ave., Tacoma, Wash.

Purchasing Agents Association of Tulsa, 307 So. Cincinnati St., Tulsa, Okla. Secretary-Treasurer, O. V. Borden.

Rocky Mountain Independent Oil Men's Association, (formerly Colorado Petroleum Club), 411 Exchange Bldg., Denver, Colo. Secretary, A. Oberholtz, Jr.

Rocky Mountain Oil & Gas Association, P. O. Box 1559, Casper, Wyo. Secretary C. W. Sparr.

Rocky Mountain Oil & Gas Association, Montana Chapter, 222 Ford Bldg., Great Falls, Mont. Secretary, Walter F. Brittan.

South Dakota Independent Oil Jobbers Association, Sioux Falls, S. D. Secretary, F. H. Buehler, care Dacotah Oil Co., Madison, S. D.

Southern Petroleum Jobbers Association. Secretary, D. C. Patterson, Camden, S. C.

St. Louis Petroleum Club, 1430 So. Vandeventer Ave., St. Louis, Mo. Secretary, R. F. Leinberger, Blackmer Pump Co., St. Louis, Mo.

Springfield Petroleum Club. Secretary, Ross Lock, c/o Lock Bros., Oil Co., Springfield, Ill.

State Executives Club. Secretary, Paul E. Hadlick, Minnesota Petroleum Association, 638 Builders Exchange, Minneapolis, Minn.

Technical Club of Oklahoma, 208 Fisher Bldg., Tulsa, Okla. Secretary, R. I. Ginter.

Tennessee Independent Oil Men's Association, Secretary, Tom S. Cooper, c/o Estes-Cooper Oil Co., First St. & L. & N. R. R., Nashville, Tenn.

Texas Independent Oil Men's Association, Secretary, L. A. Greene, care Radio Petroleum Co., Fort Worth, Tex.

West Virginia Oil and Natural Gas Association, Fairmont, W. Va. Secretary-Treasurer, Edwin Robinson.

West Virginia Oil Marketers Association. 513 Peoples Exchange Bank, Charleston, W. Va. Secretary and Treasurer, D. E. Frierson.

Western Petroleum Refiners Association, 504 Cosden Bldg., Tulsa, Okla. Managing Director, Howard Bennette.

Wisconsin Independent Oil Jobbers Association. Field Secretary, R. A. Overholser, Gay Bldg., Madison, Wis.

Wyoming Petroleum Club. Secretary, G. H. O'Donnell, 847 So. Lincoln St., Casper, Wyo.

Oil Trademarks for Copyright

National Petroleum News

THE following are trademark applications pertinent to our field pending in the United States Patent office which have been passed for publication and are in line for early registration unless opposition is filled promptly. For further information address *National Trade-Mark Company*, Barrister Building, Washington, D. C., trade-mark specialists.

As an additional service feature to its readers, this journal gladly offers to them an advance search free of charge on any mark they may contemplate adopting or registering. You may communicate with the Editor of this Department, or send your inquiry direct to the *National Trade-Mark Company*, stating that you are a reader of this journal.

Ser. No. 224,567. (Class 15. Oils and Greases.) Alfred T. Locke, Chicago, Ill. Filed Dec. 11, 1925.

No claim is made for the words "Locke's Better Gasoline."

Particular description of goods. —Fuel Oils and Lubricating Oils.

Claims use since June 1, 1922.

Ser. No. 227,200. (Class 15. Oils and Greases.) Standard Oil Company (New Jersey), Bayonne, N. J. Filed Feb. 11, 1926.

Particular description of goods. —Refined, Semi-refined, and Unrefined Oils Made from Petroleum, Both With and Without Admixture of Animal, Vegetable, or Mineral Substances, for Illuminating, Burning, Power, Solvent, Fuel, and Lubricating Purposes, and Lubricating Greases.

Claims use since Dec. 7, 1925.

Ser. No. 225,625. (Class 15. Oils and Greases.) Texas Pacific Coal and Oil Company, Fort Worth, Tex. Filed Jan. 7, 1926.

Particular description of goods. —Refined Petroleum Products—To Wit, Illuminating and Fuel Oils, Gasoline and Casing-Head Gas; Gravity Distillates, Straw and Black Color; Filtered Stocks, Naphthas, Refined Paraffin Wax and White Crude Scale Wax, and Filtered Pale and Red Oils.

Claims use since Dec. 1, 1925.

Ser. No. 221,469. (Class 15. Oils and Greases.) John O. Abshire, doing business as Abshire Oil Company, Goshen, Ind. Filed Oct. 9, 1925.

The representation of the goose is shown in gray and black, the body being gray, the head and outline being black.

Particular description of goods. —Motor Oils and Gasoline.

Claims use since Aug., 1922.

ATLANTIC

Ser. No. 224,646. (Class 15. Oils and Greases.) The Atlantic Refining Company, Philadelphia, Pa. Filed Dec. 14, 1925.

Particular description of goods. —Benzines, Gasolines, Naphthas, Kerosenes, Illuminating Oils, Burning Oils, Gas Oils, Heating Oils, Fuel Oils, Lubricating Oils, Motor Oils, Neutral Oils, Paraffine Oils, Black Oils, Compounded Oils, Crude Oils, Cutting Oils, Cylinder Oils, Dynamo Oils, Engine Oils, Road Oils, Roofing Oils, Transformer Oils, Turbine Oils, Transmission Oils, Spindle Oils, Greases Consisting Wholly or in Part of Petroleum Greases, Paraffine Wax, Candles, and Rust Preventives in the Nature of Oils and Greases.

Claims use since 1880.

Ser. No. 225,465. (Class 15. Oils and Greases.) The Brooks Oil Company, Cleveland, Ohio. Filed Jan. 4, 1926.

The drawing is lined to indicate a blue background for the white star, but the color or shape of the background or the presence of any background at all is not an essential feature of the mark.

Particular description of goods. —Petroleum Products—Namely, Gasoline, Kerosene, Lubricating Oil, Lubricating Greases, Fuel Oil, Petroleum Distillate, and Motor Fuels in Which Chief Constituent is Gasoline.

Claims use since 1898.

Ser. No. 186,861. (Class 15. Oils and Greases.) Yellow Car Motor Fuel Company, Pittsburgh, Pa. Filed Oct. 11, 1923.

Particular description of goods. —Gasoline, Benzol, Mixtures of Gasoline and Benzol, Motor Fuels, Lubricating Oils and Greases.

Claims use since Nov. 1, 1921.

Ser. No. 221,005. (Class 15. Oils and Greases.) Glasgow Oil and Refining Co., Glasgow and Louisville, Ky. Filed Sept. 30, 1925.

Particular description of goods. —Gasoline.

Claims use since June 1, 1923.

Ser. No. 224,020. (Class 15. Oils and Greases.) Hancock Refining Co., Long Beach, Calif. Filed Nov. 30, 1925.

The surname "Hancock" is disclaimed except as associated with the other features of the mark as shown in the drawing.

Particular description of goods. —Lubricating Oils and Greases.

Claims use since Jan., 1925.

Ser. No. 224,423. (Class 15. Oils and Greases.) Pierce Petroleum Corporation, Wilmington, Del., and St. Louis, Mo. Filed Dec. 8, 1925.

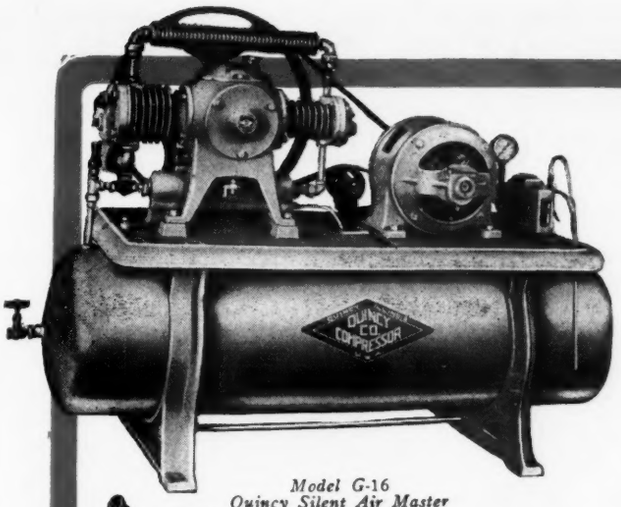
Particular description of goods. —Lubricating Oils and Greases and Gasoline.

Claims use since Dec. 4, 1924, and by its predecessors upon similar goods in substantially the same form since on or about Nov. 1, 1909.

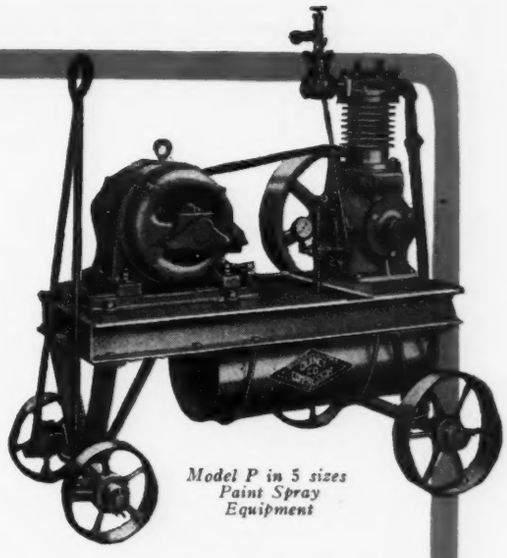
Ser. No. 220,714. (Class 15. Oils and Greases.) Gilmore Oil Company, Los Angeles, Calif. Filed Sept. 24, 1925.

Particular description of goods. —Gasoline, Kerosene, Lubricating Greases, Lubricating Oil, Fuel Oil, Road Oil, and Petroleum Distillate.

Claims use since June 8, 1925.



Model G-16
Quincy Silent Air Master
Garages and Filling Stations



Model P in 5 sizes
Paint Spray
Equipment

A QUINCY FOR EVERY JOB

Quincy Air Compressor

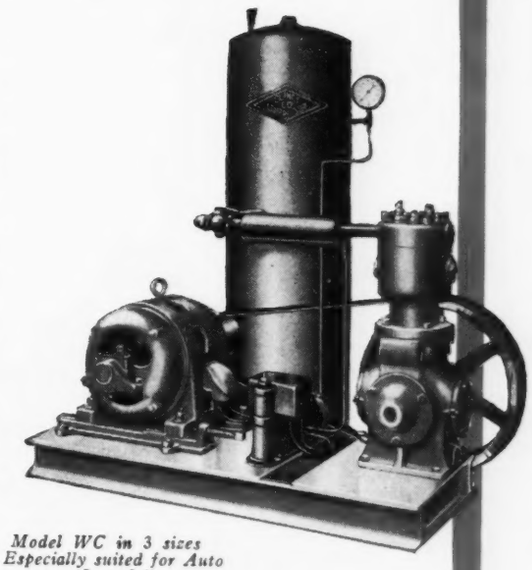
If you're ill you call a physician. An architect is consulted about the plans for your new home, a lawyer for legal advice. Why not apply the same principle to the selection of your air compressor? Buy from compressed air specialists.

Do you need a compressor for pneumatic tool service, sand blasting, or other heavy duty work? Quincy water-cooled units are built to do the job at least cost.

For service stations or garages, Quincy single or two stage compressors come in a size to fit your station and a price that doesn't strain your budget. Maybe you plan to start an auto laundry or install paint spraying service. If so, you'll find in the Quincy line the kind and size compressor to serve your purpose and save you money.

The increasing demand caused by Quincy single and two stage air cooled compressors made it necessary for us to create the new units shown here. All were designed by Quincy engineers and constructed of material worthy of the Quincy label. The same long life and service of all Quincy units is built into these compressors, as well.

This is part of the story. If you'll sign and mail the coupon, complete information including technical description, adaptability, size, price, terms, etc. will be mailed you without charge. You are not obliged to buy —just read.



Model WC in 3 sizes
Especially suited for Auto Laundries.

QUINCY COMPRESSOR CO.,
223 Maine St., Quincy, Ill.

Please place my name on your mailing list to receive the complete story of Quincy Compressors.

Name .....

Address .....

City ..... State.....

SEND THIS COUPON

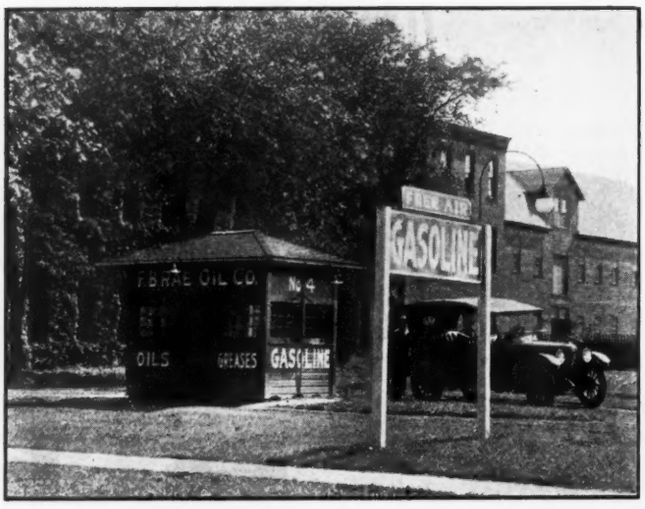
K303

QUINCY COMPRESSOR CO., Quincy, Ill.
Formerly Wall Pump and Compressor Co.

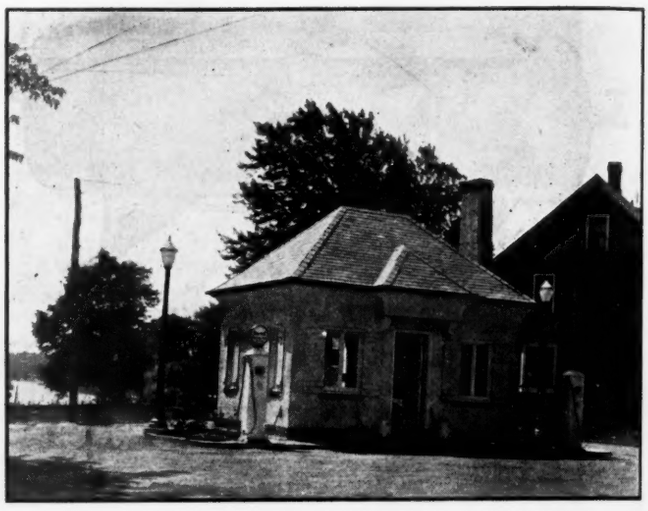
QUINCY COMPRESSOR CO.

Quincy QUINCY ILLINOIS CO. COMPRESSOR U.S.A. Illinois

Pioneer Service Station Man Standardizes On Artistic Stucco Buildings



The first service station in Rochester, N. Y., and one of the first stations used for servicing automobiles in the east. It is 22 years old and still in service although it now boasts a canopy and modern equipment. It was built by the F. B. Rae Oil Co. and used originally as a supply depot for kerosene tank wagons.



New type of service stations adopted by the F. B. Rae Oil Co., Rochester, N. Y. They are of gray stucco with blue tile roof and blue blinds. Pumps are white. This style of building will be used at all new stations and in replacing some of the company's present stations.

ROCHESTER, N. Y., Aug. 22 ONE of the earliest service stations in the east was built by the F. B. Rae Oil Co. of Rochester, a small wooden structure without pumps or any of the other accessories that make up the present plants for the servicing of automobiles with fuel and lubricants. The Rae company is still leading in the matter of service stations if one looks at the esthetic as well as the utilitarian side of the service station question.

The Rae company's original station was not intended to serve automobiles. It was built 22 years ago in the days when automobiles were few and one could remember the names of every car owner in a community. It was built as a supply depot for kerosene tank wagons in the eastern part of Rochester so the wagons would not have to return to the bulk station for a new load during the day.

Later the automobile came in larger numbers and demand for quick, handy service became evident. The Rae company put in dispensing apparatus of rather crude design if compared with today's self measuring pumps.

The little wooden building had an unusual location which was responsible largely for its conversion from a kerosene to a gasoline station. It was across the street from the Selden factory where trucks were made. For years all automobile manufacturers paid royalties to Selden who held patents on gasoline engines. These patents later were contested by Henry Ford and invalidated.

The system of marketing gasoline to the consumer through its own service station was not followed intensively by the Rae company then. The Standard Oil Co. of New York sold only to dealers, mostly garages and repair shops, and the Independents generally followed the Standard's policy.

But in the last few years eastern distributors, including the Standard, have been getting away from the early system. They are building their own stations and indications are that oil company owned and operated stations will soon predominate in the east as they have for a long time in the middle west.

The Rae company has 10 service stations in Rochester. The original station is still in use although it has been enlarged, a canopy added, and the latest equipment installed. Its latest type of stations, one on which it has standardized and which will be used on future buildings and to replace present buildings, is of gray stucco on tile, with blue tile roof and blue blinds or shutters. Gasoline pumps are painted white.

Mr. Rae started early in the oil business as a lubricating oil and grease salesman for S. B. Williams of Williams & Warfield. Old timers are familiar with the name. Thirty-five years ago he started a lubricating oil and grease business for himself in Rochester. Lubricants still form the major portion of the business of the F. B. Rae Oil Co., the name of the organization since its incorporation in 1917. During the 35 years Mr. Rae has specialized in railroad and industrial lubricants and added motor car lubricants to his line when the automotive industry was in its infancy. His gasoline trade is confined to Rochester but his motor oil and industrial lubricant trade territory covers a wide area.

He employs a research chemist to develop lubricants to meet the ever changing requirements of industry and the automotive trade.

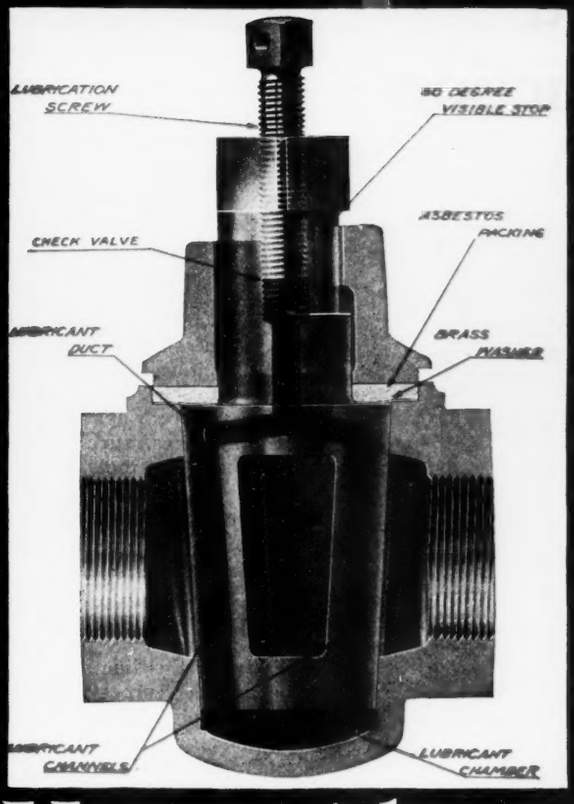
The Rae company has half million gallon storage for lubricating oils at Rochester. It also has compounding and blending equipment for the manufacture of staple and special oils and greases.

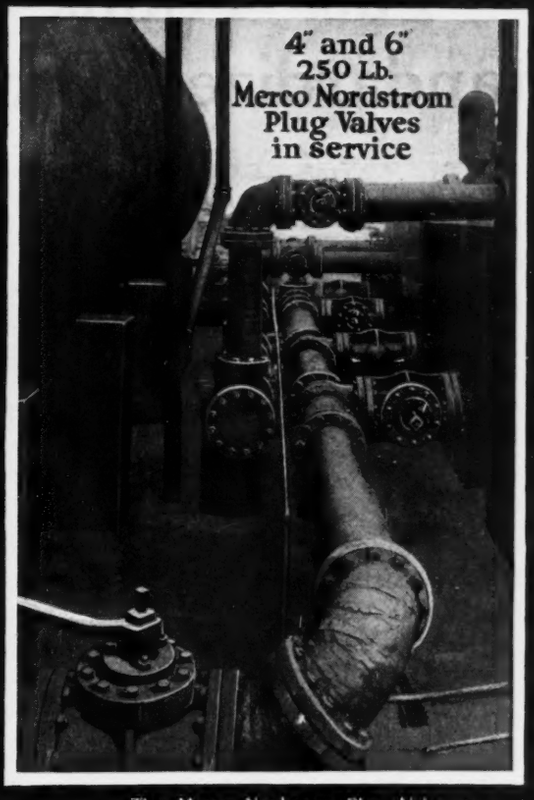
For its gasoline business the company has storage for 350,000 gallons. The plant is not far from the main business part of Rochester and the site has been occupied 15 years. A fight was necessary before permission could be obtained for the installation of gasoline storage, Mr. Rae said, but he was used to fighting for things as he was an oil salesman when competition was competition and salesmen were not order takers. He says he has even gone through a coal chute to get an audience with a purchasing agent when the front door was closed to him.

He is still a salesman with all the enthusiasm of one in his prime. Although he is a veteran in the oil business and has seen his son graduate from Yale into it, he looks young, talks young, acts young, and dresses young. He differed in only one respect from the young oil men of today; he refused to be photographed.

NEW YORK.—Cities Service Oil Co. has bought a bulk station and six service stations in Wichita, Kans.

Stop leaks!





Hot residuum
600° Fahrenheit
150 lbs. pressure
----and not a single leak!. . . . . .

The Merco Nordstrom Plug Valve is unique in that it operates on a lubricating principle, the lubricant being forced by a set screw through a hole in the shank of the valve and grooves along the side of the plug to the bottom of the valve, lifting it and greasing it by hydraulic pressure. Different lubricants are used for different services, depending upon the nature of the fluid or solution. For all pressures and purposes, built in sizes from ½" to 16". Catalog on request.

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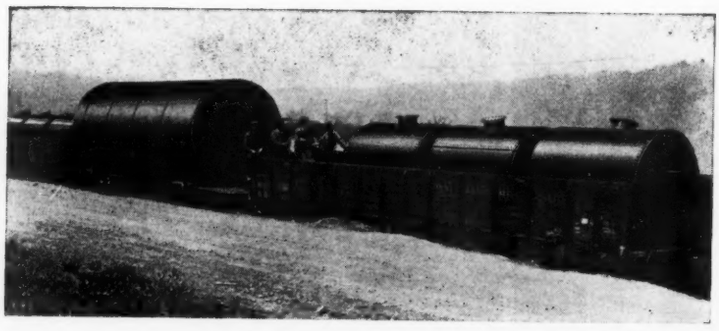
PLUG VALVES

SISTERSVILLE TANKS
MADE IN THE HEART OF THE OIL COUNTRY

Fast Trains and Standardized Production



Fast trains and standardized production methods assist Sistersville to keep pace with the great national demand for storage tanks bearing the Sistersville name. The hills of West Virginia resound to a busy clatter these days. We are working two shifts and are burning midnight oil.

The photograph shows two carloads of absorbers and a 10'x30' horizontal. Sistersville Tanks are built for every purpose and from 200 gals. to 26,000 gals. in size.

Write for a free copy of our latest illustrated folder.

SISTERSVILLE TANK & BOILER WORKS
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NIAGARA GASOLINE METERS

for wholesalers and bulk stations are giving their owners the most accurate check on sales and deliveries that is possible. We offer a 30-day trial to convince you.

Send for the new illustrated catalog telling about Niagara Meters "for any oil that flows thru a pipe."

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2889 Main St. Buffalo, N. Y.

New Books

The "Lubricating Oil Salesman's Primer" is the title of a new book by Claude Ettele, associated with one of the big oil companies in this country, published by the Chemical Publishing Co. It is designed in the language of the preface, "to properly present a first view of the subject of lubrication and encourage the young salesman to study advanced works without which he will be unable to develop maximum efficiency in the services of his employers and of his customers."

The book takes up briefly the manufacture of various grades of lubricating oils and greases, the tests by which oil and grease specifications are written and then goes into a general discussion of lubrication problems as met with in steam cylinders, turbines, internal combustion engines; power transmission machinery, such as shafting; wire ropes, belts, gears, bearings and so on; and driven machines, such as air compressors, pneumatic tools, ice machinery, machine tools, textile machinery, paper mills, mine and quarry machinery.

The book also gives a standard line of lubricants the salesman presumably will carry and specifies which oils or greases are applicable to the various kinds of machinery taken up in the book. With this line of lubricants some oil companies probably will disagree. On the whole the book, of about 100 pages, will give the new lubricating oil salesman without technical training much information that he would not have otherwise placed before him in such convenient fashion.

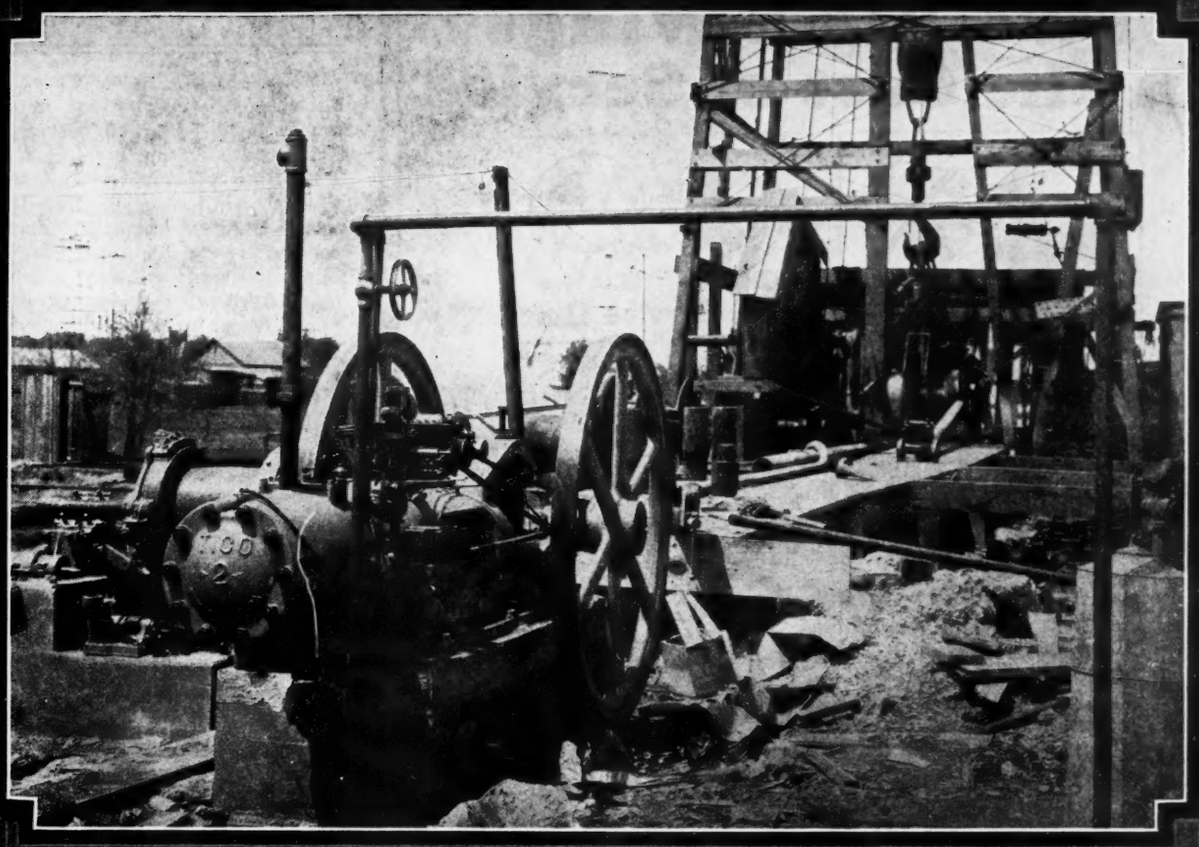
* * *

A book recently off the press is "Die Erodel Wirtschaft der Welt," (the oil business of the world). Authors are Dr. Karl Krueger and G. R. Poschardt and the publisher is Erwin Naegele, Stuttgart, Germany.

The volume, which contains about 500 pages, covers the oil business very thoroughly, beginning by explaining the geological theories of the origin of oil and discussing the various phases of production, drilling methods, tools and so on, and ending up with figures on production and consumption in the countries of Europe. It is apparently a valuable book of reference for those who read the German language.

Atlantic Wins Superior Oil Suit

PHILADELPHIA.—U. S. Circuit Court of Appeals here has reversed decision awarding $3,279,081 damages to minority stockholders of Superior Oil Corp. against Atlantic Refining Co. and ordered dismissal of suit. The court also overruled a decision setting aside a 10-year contract under which Atlantic was to purchase Superior's entire petroleum output.



TICO GAS ENGINE

MORE EFFICIENT THAN STEAM

The photograph shows a TICO Gas Engine being set for drilling in, swabbing and pumping, on Sinclair North Walker 39, Garber Field.

Production men on this lease added their testimony to that of a host of other satisfied TICO users. They stated that the TICO is a wonderful engine for drilling, swabbing, pulling casing and every other production use. Bearing out these statements is the fact that Sinclair has installed 75 Ticos in the Garber Field alone, since January 1st. This is the deepest field east of the Rockies. Write us for other users in Garber, Tonkawa, and other deep fields.

"If CONTINENTAL Sells It, There Is No Better"

THE CONTINENTAL SUPPLY COMPANY

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CONTINENTAL

Two Big Savings In The Cost of Service

Put Them Into Effect At All Your Stations

ECO Automatic Air Stations are cutting down operating cost at hundreds of stations—

First: ECO eliminates hand gauge expense because it does the work of a gauge and does it better.

Second: ECO reduces the "free" service time that your men spend at the air hose, because it takes less than half as much time to fill tires the ECO way.

MODEL 20

ECO

Automatic Air Station

"The Station That Rings the Bell"

Attracts and Holds More Customers

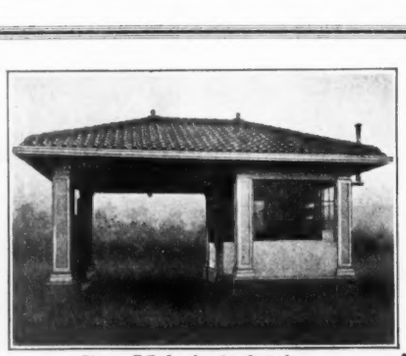
ECO gives motorists the handiest, simplest tire filling service. Just turn pointer to pressure desired and apply chuck. ECO bell rings while tire is being filled and stops at indicated pressure. When bell stops, air is automatically shut off and the job is done.

And it is accurate to a pound, cutting out all the guesswork in filling balloon tires. Once a man uses it, he keeps coming back every time for ECO service. That's why ECO has already increased business for hundreds of filling stations.

Make your air service hold more customers. Equip your present air towers with ECO Automatic Inflators and specify ECO for all new stations.

ECO comes in eight models at prices that will interest you. Standard equipment with larger oil companies. Write today for detailed information.

WESTERN MFG. COMPANY, Oskaloosa, Iowa



Type GS-I 16x24x9½ feet

WHEN you need a service station in a hurry

Wire Collect to Shepard

Quick delivery.

Ready for quick erection by your own men.

There are seventy different types of permanent

Shepard Stations

ARTHUR B. SHEPARD CORPORATION

ARCHITECTS and MANUFACTURERS

11 Broadway NEW YORK

Industrial Notes

Marco Light & Power Corp., Lansing, Mich., is offering for use in oil fields and isolated bulk and service stations electrical generating units of 2, 2½, and 3 kilowatt capacities. The units are powered with 8 HP New-Way air-cooled engines, which, the manufacturers say, are capable of carrying an overload. The units are light in weight and compact, thus permitting portability. The drive is by silent chain running in oil in a dustproof case. The generator is said to be weatherproof.

* * *

The Mars Co., Aurora, Ill., is marketing a one-gallon stroke gasoline or kerosene yard pump designed mainly for installation in rural communities. The manufacturers claim it is a farm trade getter. It may also be installed for truck fleet owners along their driveways or any convenient place away from buildings. The pump has ¾-inch hose. The housing is galvanized and the pump has vacuum breaker, detachable handle, rack and gear, seamless brass tubing cylinder, brass piston rod, and brass check valve. The price is less than $30.

* * *

The United States Air Compressor Co. announce that all its car washing equipment can be connected direct to city water pipe line by the vacuum Breaker Valve, patent on which has been applied for. This allows a working pressure of 300 pounds to be maintained even when the city water pressure is as low as 25 pounds.

The pump of the U. S. equipment is all enclosed, dust and dirt proof, self oiling and has the adjustable motor base which keeps the motor in line and makes the belt wear longer.

Industrial Catalogues

Industrial Chemical Co., 200 Fifth ave., New York, has put out two little booklets, one entitled, "Activated Carbons in the Refining of Mineral Oils," and "Activated Carbons in the Oil Refining Industry. "The former deals with the use of the company's production, "Nuchar" for use in refining petroleum oil and the latter with its use in the refining and decolorizing of vegetable oils. The one booklet describes the history of filtering and decolorizing in the petroleum industry.

* * * *

Butler Manufacturing Co., Kansas City, has just put out Book No. 92, a catalog describing the Butler line of ready made steel buildings. The catalog, which contains 48 pages, is illustrated with pictures of many installations that have been made in various branches of the oil business. Buildings are shown that are being used as gasoline plants, pump houses, engine houses, drive-in filling stations, warehouses, factories and office buildings.

Oil Patents Issued Recently

Refining

Apparatus for Treating Oil—Gustav Egloff and Harry P. Benner, Chicago, assignors to Universal Oil Products Co. Filed Aug. 20, 1920. Renewed Jan. 14, 1926. **No. 1,595,179.**

Apparatus for the Conversion of Oils—Joseph H. Adams, Brooklyn, assignor to The Texas Co. Original application filed Dec. 5, 1917, divided and this application filed June 22, 1923. No. 1,595,332.

Condensing System—Edward J. Atkison, Los Angeles, assignor to Southwestern Condenser Co. Filed Nov. 1, 1922. No. 1,595,334.

Multiple-Chamber Filter Press—Paul W. Prutzman, Los Angeles, assignor to General Petroleum Corp. Filed March 29, 1922. No. 1,595,616.

Art of Fractionally Distilling and Condensing Oils—Edgar M. Clark and Frank A. Howard, New York, assignors to Standard Development Co. Filed May 5, 1922. No. 1,595,642.

Still Cleaning Device—William Knapp, Chanute, Kan. Filed Oct. 7, 1922. No. 1,595,666.

Production

Plug for Gas or Oil Well Lines—Herman L. Gray, Jerusalem, O., assignor to Clarence A. Hardwick, Barnesville, O. Filed Feb. 12, 1925. No. 1,595,186.

Line Control for Rotary Drilling—Vivian H. Earley, Whittier, Cal. Filed Oct. 15, 1925. No. 1,595,386.

Pump—Granville A. Humason, Houston, Tex. Filed Sept. 21, 1925. No. 1,595,401.

Process for Treating Petroleum Emulsions—Melvin de Groote, St. Louis and Wilbur C. Adams, University City, Mo., assignors to W. S. Barnickel & Co. Webster Grove, Mo. Filed April 6, 1925. No. 1,595,455.

Process for Treating Petroleum Emulsions—Melvin de Groote and Wilbur C. Adams, assignors to Barnickel Co. Filed April 6, 1925. No. 1,595,456.

Process for Treating Petroleum Emulsions—Melvin de Groote and Edward H. Keiser, assignors to Barnickel Co. Filed April 6, 1925. No. 1,595,457.

Rotary Drill Bit—Henry H. Hulsen and Shelley G. Woodruff, Los Angeles, assignors of one-half to Rotary Disc Bit Co. Los Angeles. Filed Dec. 21, 1923. No. 1,595,552.

Portable Suspending Device for Sucker Rods—George E. Fritts, Taft, Cal., assignor by mesne assignments to F. A. Keefover and Daisy Keefover. Filed July 7, 1924. No. 1,595,652.

Natural Gasoline

Process for the Recovery of Hydrocarbon Vapors and Derivatives Thereof—George G. Oberfell, assignor by mesne assignments to Gasoline Recovery Corp. Filed Dec. 6, 1919. No. 1,595,681.

Process of Recovering Condensable Vapors from Gas Mixtures—George G. Oberfell, Tulsa, and George A. Burrell, Pittsburgh, assignors to Gasoline Recovery Corp. Filed May 20, 1919. Renewed Jan. 5, 1926. No. 1,595,682.

Process for Extracting Vapors from Gaseous Mixtures—George A. Burrell, George G. Oberfell and Clyde L. Voress, assignors to Gasoline Recovery Corp. Filed June 18, 1920. No. 1,595,683.

Miscellaneous

Process for Producing Sulfur Dioxide and Apparatus Therefor—Hans O. C. Isenberg, assignor to General Chemical Co. Filed Dec. 22, 1924. No. 1,595,196.

Compartment Tank Construction—Frederick G. Thwaits, Wauwatosa, Wis., assignor to The Heil Co., Milwaukee. Filed Dec. 19, 1924. No. 1,595,633.

GULF Refining Company

General Sales Offices
PITTSBURGH, PA.
District Sales Offices
New York, Houston, Atlanta, Boston, New Orleans, Tampa, Philadelphia

REFINERS OF OKLAHOMA TEXAS AND LOUISIANA

PETROLEUM

REFINED OIL
GASOLINE
NAPHTHA
GAS OILS
PARAFFINE WAX
ASPHALT

Fuel Oil--Lubricating Oils

CYLINDER ENGINE
CORDAGE

RED AND PALE PARAFFINE OILS

Make Your Own
NON-CHATTER
OIL FOR FORDS
Send for Information
NATIONAL OIL PRODUCTS CO.
HARRISON, N. J., U. S. A.
CHICAGO BOSTON CHARLOTTE

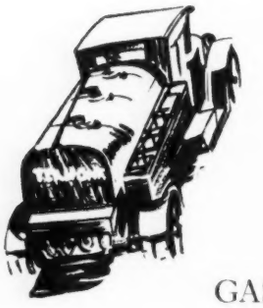
TEXHOMA
PETROLEUM PRODUCTS

A Complete "P·R·M" Organization!

TEXHOMA Service to the oil jobber is based on a complete Producing, Refining and Marketing organization.

Good crude, expert refining and ample transportation facilities combine as one in the delivery of high class petroleum products to Texhoma Jobbers.

You will find Texhoma a GOOD source of supply—and a DEPENDABLE source! Write or wire us for specifications and prices on your requirements.



TEXHOMA OIL & REFINING COMPANY

Wichita Falls, Texas

GASOLINE - KEROSENE - BURNER FUEL

Here & There

National Petroleum News

The "Stolls," who own and operate the Stoll Oil Refining Co. of Louisville, will have fled, like Caesar's army, into all directions by the first of August.

William A. Stoll, treasurer, is seeking respite from work and heat in the national parks of Wyoming, and at Paradise Ranch, Wyo. during August.

Berry V. Stoll, vice president, will spend several weeks at Hot Springs, Va.

Charles E. Stoll, secretary, will vacation with his family in the lake regions of Michigan.

George Stoll, vice president, has promised himself and family a stay at Camp Daniel Boone in eastern Kentucky.

* * *

E. M. Stewart, who was formerly with the Standard Oil Co. of Indiana, at Richland, Ia., has entered the oil jobbing business for himself under the name of Stewart Oil Co. Mr. Stewart has purchased a bulk and service station, and also a truck for deliveries.

* * *

R. L. Davidson, who has been for the past 10 years general manager of the Sunflower Compress at Indianola, Miss., has resigned to become manager of the No. 1 station of 711 Tire & Accessory Co., Greenwood, Miss., reports W. S. Cooper, secretary and treasurer.

* * *

I. B. Browning, geologist of the Venus Oil Corp. and Short Fork Oil Co., Ashland, Ky., has left for Saginaw, Mich. to witness the drilling of the Gardner Petroleum Co.'s test, and also to look over the field, according to David Browning, president.

* * *

A 10-day fishing trip has claimed Roger Wearne, general counsel for the Panhandle Petroleum Co., Coeur d'Alene, Ida. He is accompanied by Mrs. Wearne. The fishing is taking place at Pend Oreille Lake, northern Idaho.

* * *

R. R. Spears, president of Spears & Riddle Co., Wheeling, W. Va., has been in Baltimore supervising the installation of an ethylizer at its Baltimore terminal, reports M. E. Murrin, treasurer. The ethylizer is for treating gasoline with tetra-ethyl lead.

* * *

Edward L. Beyard, Seligman, Ariz., will be on his way east by Sept. 1, visiting New York and Philadelphia, during which trip he also expects to visit offices of National Petroleum News.

* * *

Charles Aplas, formerly manager at Daytona, Fla., of the Seaboard Oil Co., has returned to his home in Lima, O. and has become connected with the Pure Oil Co.

One oil man who believes in keeping in touch with the oil industry even on vacations is R. H. Hollis, of the Hollis-Vaughan Oil Co., Selma, Ala., who has just returned to Selma from a motor trip to the Gulf Coast. In passing through Pensacola, Fla., he stopped to visit with J. H. Sherrill, president, who conducted him on a tour through the Sherrill terminal in that city.

Mr. Hollis was accompanied by Mrs. Hollis and son, Robert, Jr.

* * *

H. K. Brown, tank wagon salesman at Richwood, O., for the Standard Oil Co. of Ohio, has been transferred to Quincy, O., where he is now agent.

L. M. Jones, service station attendant at Richwood, was promoted to tank wagon salesman succeeding Mr. Brown.

* * *

J. A. Brown, president of the Alabama Oil Brokerage Co., Inc., Birmingham, Ala., and also manager of Brown Bros. Manufacturing Co., Montevallo, Ala., is vacationing at Chicago and other points. He is accompanied by Mrs. Brown and two children.

* * *

D. C. Cook, Ford, Kans., who is distributor of Waverly Oil Works Co. products, is not only an oil man, but also a good farmer, his wheat crop this year averaging 45 bushels and testing 60 pounds.

* * *

S. R. Jones, formerly with the Mexican Petroleum Corp. at Dallas, Tex., is now sales representative in Arkansas and Mississippi for Deepwater Oil Refineries, Inc., Houston.

* * *

Harry A. Logan, manager of the United Refining Co., Warren, Pa., has sailed recently with his family for Europe, where they will spend the balance of the summer.

* * *

C. E. Whiddon, president of the Greenville Woco Pep Co., Greenville, Ala., recently returned from the annual convention of the Alabama Automotive Association at Birmingham.

* * *

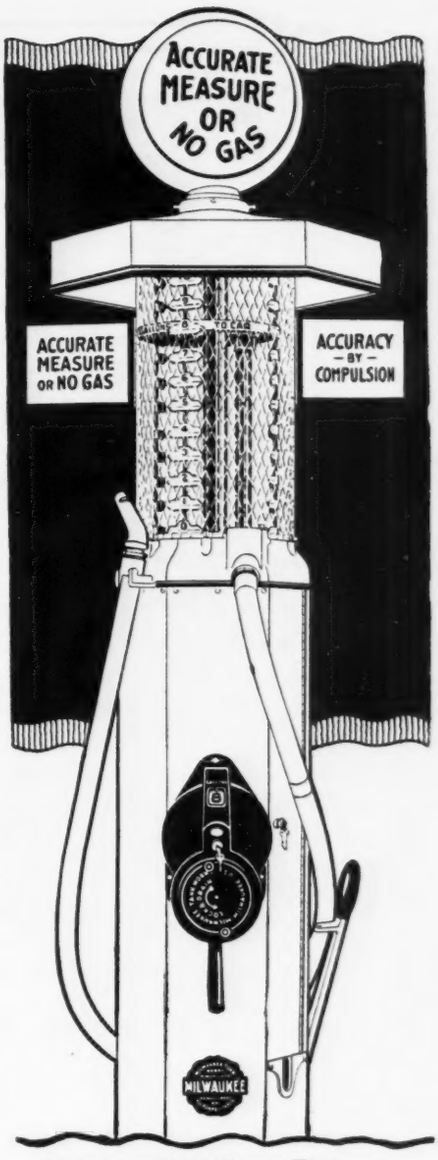
C. D. Campbell, southeastern representative at Atlanta, Ga. for Deepwater Oil Refineries, has returned to Atlanta from a vacation in his native Texas.

* * *

Roderic Crandell, consulting petroleum engineer of New York City spent a week in July in the Texas Panhandle.

* * *

H. A. Frederick, salesmanager for the Gilmer Oil Co., Ardmore, Okla., was a business visitor in Tulsa during the week of July 12.



Super-Station Pump for Super-Service

This new Milwaukee Visible Pump combines service perfection with the maximum in profit producing qualities.

New developments in mechanism increase efficiency and reduce working parts. Easy-acting, patented Flow Lock assures "Accurate Measure or No Gas". Meets local and state regulations.

Write now for details of Budget Payment Plan.

MILWAUKEE TANK WORKS
MILWAUKEE WIS.

FUEL OIL — GAS OIL

Help Wanted-Male!

Even the ancient and honorable profession of life-saving has its unpleasant moments—Drowning fat ladies yell for service just as insistently as charming fair ones.

Most businesses are like that—oil marketing not excepted. It would, of course, be great if we had to handle only "easy" orders. But we realize that a certain number of hard jobs go with the easier ones, and for that reason we handle them just as cheerfully as we do the other kind. As a matter of fact, so many "rush" and special problems come to us that we take a special delight in solving them.

Let us demonstrate the type of service we render on your next requirements.

"Conscientious Oil Marketing, Guided by Years of Experience"

SPENCER PETROLEUM CO.

All Petroleum Products

CHICAGO
1331-1333 Peoples Gas Bldg.
Harrison 9630-1-2-3-4

STABILITY
SPENCER
SERVICE
OILS
SATISFACTION

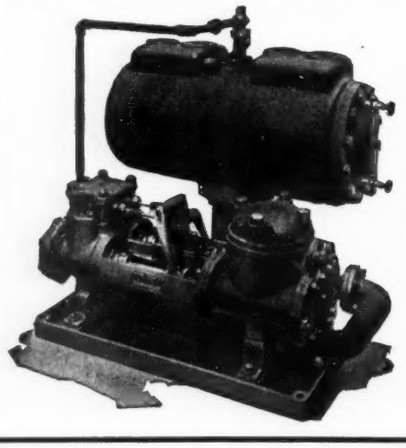
KANSAS CITY
700 Orear-Leslie Bldg.
Harrison 6180-81
Long Distance 65

WICHITA FALLS
204 City Nat'l Bank Bldg.
Phone 3480

TULSA
1039 Kennedy Bldg.
7857
Long Distance 37

DETROIT
743 Book Bldg.
Cadillac 8864

KEROSENE — GASOLINE



TRANSIT

Automatic Feed Pumps and Receivers

Automatically return to the boiler the condensed drains of heating systems, steam coils, drying cylinders, steam jackets, etc.

Highest Economy for a Prudent Expenditure

National Transit Pump & Machine Co.

OIL CITY, PA.

New Oil Station Construction

Gates, Tenn.—A three-pump drive-in service station is being erected here by C. N. and C. O. Wilkes, which will be operated as the Gates Service Station. Hoco products will be handled exclusively, supplied by the Home Oil Co., Ripley, Tenn.

* * *

Abingdon, Ill.—Site for filling station was purchased by Andrew Slough. Property for stations have been purchased here also by Standard Oil Co. of Indiana and by Kennedy Oils, Galesburg, Ill.

* * *

Louisville, Ky.—Stoll Oil Refining Co. during week of July 26 started construction of its fifteenth service station in Louisville, at 40th & Market Sts.

* * *

Cottonwood, Ariz.—Verde Motor Co., agent in the Verde, Ariz. district for the Upton Oil Co., is building garage and service station here.

* * *

Coeur d'Alene, Ida.—Panhandle Petroleum Co., with general offices here, is erecting two filling stations, according to W. W. Poyfair, secretary and treasurer.

* * *

Wichita, Kans.—L. P. Benn Lubricating Co. is completing bulk station here, which will handle Waverly products exclusively.

* * *

Gallitan, Mo.—Roy Tolbert, marketer of Skelley Oil Co.'s products, is building service station here on No. 6 highway.

* * *

New Orleans, La.—Pan-American Southern Petroleum Co. building bulk stations at Sulligent and Fayette, Ala.

* * *

McConnelsville, O.—Jesse Love and Charles Moore purchased building in which they will install filling station.

* * *

Selma, Ala.—Hollis-Vaughan Oil Co. is building service station on Montgomery highway near here.

* * *

Sioux Falls, S. D.—Storage tanks and warehouse will be built here by Standard Oil Co. of Indiana.

* * *

Kansas City, Mo.—Skelley Oil Co. is building service station at Richmond, Mo.

* * *

Grand Rapids, Mich.—Grimes & Madigan are building three service stations.

* * *

Crookston, Minn.—Cities Service Oil Co. purchases property for filling station.

* * *

Wichita, Kans.—J. G. Smith building service station on E. Douglas Ave.,

and will handle products of Waverly Oil Works Co. exclusively, according to E. R. L. Boyd, district manager for the latter at Wichita.

* * *

Aberdeen, S. D.—E. P. Reagan, who operates filling station here, is seeking permit for another station.

* * *

Ashland, Wis.—Filling station will be built here by Standard Oil Co. of Indiana.

* * *

Houghton, Mich.—Filling station will be built here by Standard Oil Co. of Indiana.

* * *

Vilisca, Ia.—Marland Oil Co., Ponca City, Okla. to build filling station here.

* * *

Council Bluffs, Ia.—Bulk station for Union Pacific railroad will be built here.

* * *

Billings, Mont.—Yellowstone Tire & Vulcanizing Co. to build filling station.

* * *

Champaign, Ill.—The Texas Co. is building $10,000 filling station here.

* * *

Sidney, Mont.—Continental Oil Co., Denver, to erect bulk station here.

* * *

Kennett, Mo.—Lloyd Oil Co. is building service station at Caruth, Mo.

* * *

Sioux Falls, S. D.—Mills Grain & Supply Co. is building station here.

* * *

Ripley, Tenn.—Service Station is being built here by R. M. Prichard.

* * *

Plainville, Kans.—Standard Oil Co. of Indiana building filling station.

* * *

Carrington, N. D.—Standard Oil Co. of Indiana building filling station.

* * *

Rochester, N. Y.—Samuel J. Maiditz seeks permit for filling station.

* * *

Richmond, Mo.—Skelly Oil Co. to build two filling stations here.

* * *

North Tonawanda, N. Y.—Frank I. Alliger to build filling station.

* * *

Neodesha, Kans.—Glen P. Stotts purchased site for filling station.

* * *

McConnelsville, O.—Walter A. Deedrick erecting service station.

* * *

Jerome, Ariz.—Jerome Transfer Co. is building service station.

* * *

Monticello, Ill.—Gilbert Johnson building service station.

* * *

Greensboro, N. C.—Gulf Refining Co. to build filling station.

* * *

New Hampton, Ia.—Sinclair Refining Co. to build warehouse.

* * *

Sparta, Wis.—E. J. Brandau building filling station.

* * *

Roosevelt, Okla.—J. H. Harrell erecting filling station.

Edward Forged Steel Valves for refinery service

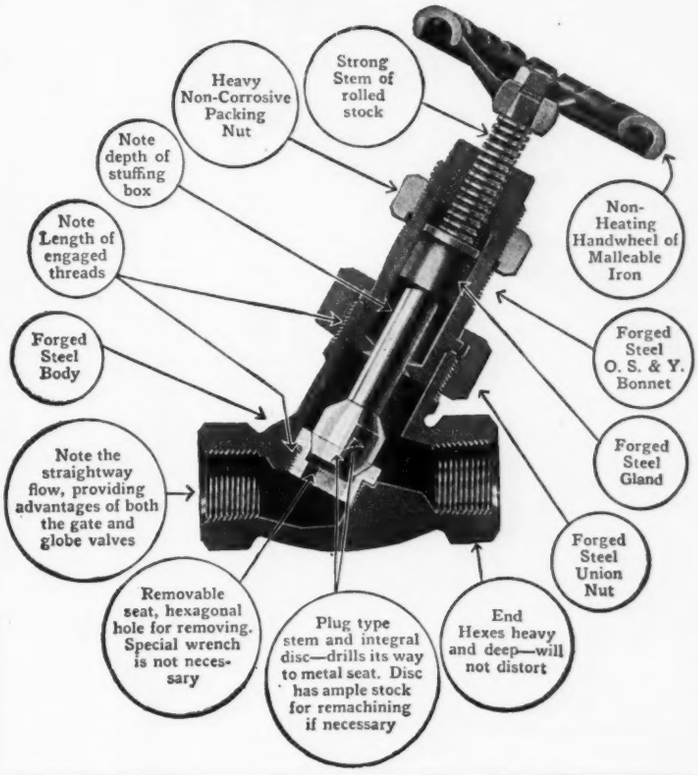
---—prompt shipment from stock——--

Dependable service in operation is one characteristic feature of Edward Valves. Not only can you expect this but when you need valves you can depend on prompt shipment—stock carried at all points noted below.

The Edward Valve & Manufacturing Co.

Main Office and Works, East Chicago, Ind.

Maintenance Eng. Corp., 1802 Conti St., Houston, Texas
Power Plant Equip. Co., 123 W. 1st St. Tulsa, Okla.


Heavy Non-Corrosive Packing Nut
Strong Stem of rolled stock
Note depth of stuffing box
Note Length of engaged threads
Non-Heating Handwheel of Malleable Iron
Forged Steel Body
Forged Steel O. S. & Y. Bonnet
Forged Steel Gland
Note the straightway flow, providing advantages of both the gate and globe valves
Forged Steel Union Nut
Removable seat, hexagonal hole for removing. Special wrench is not necessary
Plug type stem and integral disc—drills its way to metal seat. Disc has ample stock for remachining if necessary
End Hexes heavy and deep—will not distort

Sectional view of Globe Valve — Plug Type No. 682.

Also made in Angle Pattern and in sizes from ¼ inch to 2 inches inclusive.

Vogt Products For The Oil Refiners

We manufacture Paraffine Wax Presses, Distillate Chilling Machines, Stills, Auto Truck Tanks, Special Refinery Equipment, Boilers, Refrigerating Machinery, Drop Forged Steel Valves, and Fittings. Bulletins On Request.

Henry Vogt Machine Co.

Incorporated

Louisville - - - Kentucky

Branch Offices
New York Chicago
Philadelphia Dallas

Simplicity the Keynote

Made of Pressed Steel Throughout

THE New 400 UD Birmingham Visible, Double-Piston Pump, which we are now offering to the trade, is the result of our many years experience in pump manufacture.

This pump embodies just the qualities you are looking for in a gasoline pump. It is fast; accurate; pleasing in appearance; durable; completely equipped; absolutely guaranteed by us; and is sold at a very reasonable price. Write or wire for catalog.

This pump is of the double-piston type and is one of the fastest on the market. It fills a 10-gallon bowl in 16 seconds, with only 11 strokes of the pump handle.

The pump cylinders are of seamless brass tubing; and the casing, base and dome are of pressed steel.

Furnished in 5-gallon and 10-gallon sizes — completely equipped with foot valve, standard metal-lined hose, hose nozzle and lock.

BIRMINGHAM MACHINE & FOUNDRY CO.
Main Office and Plant---Birmingham, Ala.

BRANCH OFFICES:

CHICAGO, ILL.—C. W. Badger, Peoples Gas Bldg.
COLUMBIA, S. C.—R. H. de Graffenried, Box 174.
HAVANA, CUBA—Empedrado, 16.
JACKSON, MISS.—J. T. Banks, 115 N. Lamar St.
LITTLE ROCK, ARK.—Maylan Petroleum Co., 220 Enterprise Building.
MEMPHIS, TENN.—Alton & Burge, 245 Monroe Ave.
NEW YORK CITY—16 Exchange Place.
SAN FRANCISCO, CALIF.—Rolph, Mills & Co., Underwood Bldg.

The New

BIRMINGHAM

Visible, Piston PUMP

ON THE LAZY BENCH

National Petroleum News

The Complex

A coast and geodetic survey engineer was making observations in Texas for compass declination. He was at his instruments, and taking copious notes, when an angry Texan walked up, examined the outfit, and inquired:

"Whattyer doin' young felly?"

The engineer, new and enthusiastic in the coast and geodetic survey service, replied in detail:

"I am determining the latitude, longitude and declination of the compass and establishing a permanent survey monument for the benefit of local surveyors. The compass pointing goes through a small change in a period of years and I am determining the exact pointing at this date. I am observing on the sun, and by astronomy I am able to establish a true North and South line. Then I determine the magnetic pointing of the compass and the angle between the two gives me what I'm looking for—the declination of the compass."

But the native wasn't convinced. He spat at the instruments, gave his big hat a vicious tug, and announced:

"Ye can't fool me, young felly; ye're looking fer oil."—Life.

◈ ◈ ◈

The Correct Solution

Two women in a train argued concerning the window and at last one of them called the conductor.

"If this window is open," she declared, "I shall catch cold and will probably die."

"If the window is shut," the other announced, "I shall suffocate."

The two glared at each other.

The conductor was at a loss, but he welcomed the words of a man who sat near. These were: "First open the window. That will kill one. Next shut it. That will kill the other. Then we can have peace."

—Magnolia Oil News

◈ ◈ ◈

It Could Be Worse

It was during the family battle. "You seem to think a bad cold in the head means nothing to a woman," complained the irate wife. "I don't know of anything more annoying."

"No?" countered her husband, with a rare flash of spirit. "How about lockjaw?"

—Selling Skelly Service

◈ ◈ ◈

"Where did you get that bum cigar you wished on me?"

"That was a two-for-a-quarter cigar."

"Who got the twenty-cent one?"

—The Atlantic Seal

Traitors and Converts

Young Hopeful—"Father, what is a traitor in politics?"

Veteran Politician—"A traitor is a man who leaves our party and goes to the other one."

Young Hopeful—"Well, then, what is a man who leaves his party and comes over to yours?"

Veteran Politician—"A convert, my son."

—Magnolia Oil News

◈ ◈ ◈

In Texas They'll Understand This

The negro preacher's name was Ham After his sermon a sister of his flock greeted him with "Brudder, what might your name be?"

"Sister, my name is the bes' part of the hawg."

"Brudder Chittlings, I sho' is glad to meet you."

—The Pure Oil News

◈ ◈ ◈

A Safe Place

Fugitive: "Quick! Where can I hide? The police are after me."

Office Employee: "In the filing cabinet. Nobody can ever find anything there."

—The Speedener. (Published by Rio Grande Oil Co.)

◈ ◈ ◈

The sweet young thing entered the office of the fashionable dog kennels and tripped up to the handsome young man at the desk.

"I want a pet," she cooed.

"I'd love to," he answered sadly, "but the boss is awfully strict."

—Selling Skelly Service

◈ ◈ ◈

The Pretty Bookkeeper

A handsome young chap strolled in. "Do they keep automobile accessories here?"

The little bookkeeper smiled her sweetest. "Only me," she replied.

—Bottles

◈ ◈ ◈

"Who was that peach I saw you with?"

"She wasn't a peach, she was a grapefruit."

"Why grapefruit?"

"I squeezed her and she hit me in the eye."

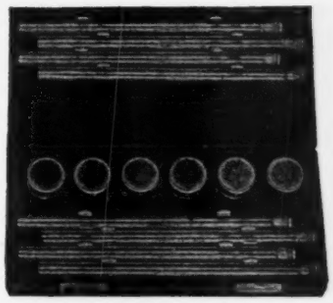
—The Atlantic Seal

◈ ◈ ◈

Where was the last well drilled in West Virginia?

About half way between the headache post and the bull wheels.

—Bridgeport Driller



A Pocket Sample Case

No. 135 L-U-C-E POCKET CASE is 10⅝"x5¼"x2", fitting conveniently into the side pocket of your coat. Covered with black seal grain, genuine cowhide, with two nickel plated side catches, it assures a favorable first impression. It contains eight 9" x½" bottles and seven ½ oz. grease jars in a compact, convenient manner. The lining is red plush. Complete with your name embossed in gold, *guaranteed* to please, only $6.50

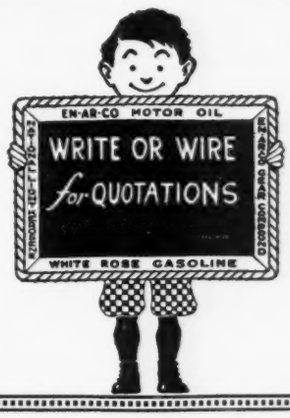
Less 10% for cash.

Other Styles in our FREE Catalog

L-U-C-E

Builders of Sales Luggage

614 Delaware KANSAS CITY, Mo.



The

NATIONAL REFINING COMPANY

PETROLEUM PRODUCTS

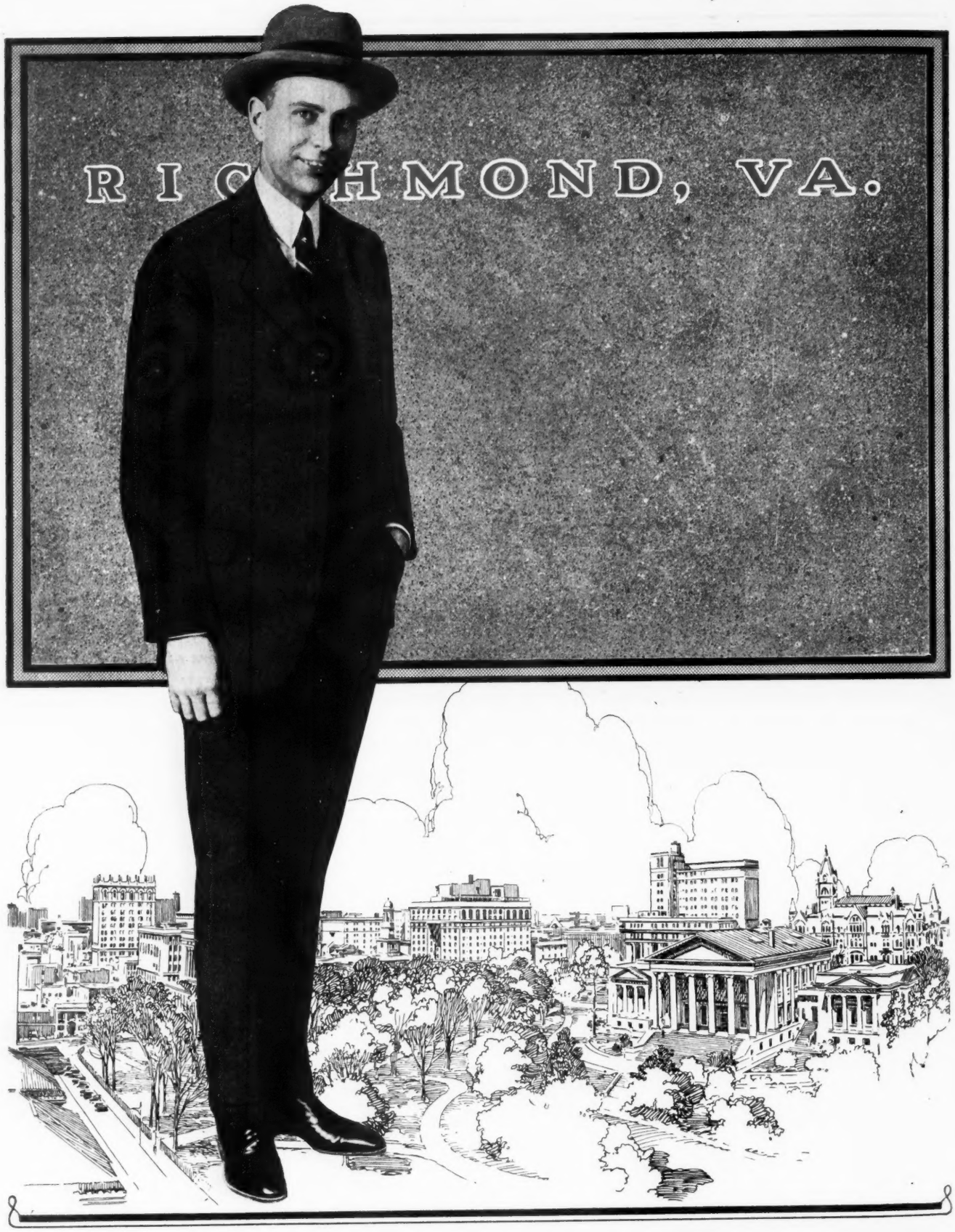
THREE MODERN REFINERIES:

Marietta, Ohio Refinery
operated on Pennsylvania Crude

Findlay, Ohio Refinery
operated on Ohio Crude

Coffeyville, Kansas Refinery
operated on Midcontinent Crude

National Headquarters
NATIONAL BLDG., CLEVELAND, O.



Rapidayton

TRADE MARK REG. U. S. PAT. OFF.

Refinery - Tank Wagon Markets

National Petroleum News

Mid-Continent Gasolines are Sluggish; Heavy Oils Become Stronger

Staff Special
TULSA, Aug. 21

GASOLINES continued to be the only weak spot in the Mid-Continent refinery markets this week.

Refiners held their prices on almost all other commodities, in a few instances advancing them during the week, and natural gasoline manufacturers enjoyed a brisk business, but gasolines could not be checked in their downward trend. The price of 58-60 U. S. Motor in Group 3 today was ⅜ cent under the price last Monday.

Buying the first day or two of the week was a little better than in the preceding six days, but this improved buying probably can be accounted for by the fact that jobbers ordered their estimated requirements for the next week or 10 days. As the week progressed buying receded and several refiners who had stood firmly for 11¼ to 11½ cents for U. S. Motor gasoline in Oklahoma, reduced their quotations to 10¾ to 11 cents.

Jobbers without a doubt are practicing their hand-to-mouth buying policy. One refinery salesmanager said orders were usually for only small car lots. Other refiners reported their experience has been the same.

Jobbers Waiting For Bottom?

IT is the general opinion here, however, that jobbers will be active as soon as they are convinced the bottom of the market has been reached. But no one apparently is willing to risk an opinion as to what price that will be. As long as refiners who are not equipped with storage facilities or who prefer to keep their output sold up this month in anticipation of any breaks which might lower prices overnight, offer a sufficient amount of gasoline below the general quotations to take care of the hand-to-mouth demands of jobbers there is not likely to be more activity than at present.

Naphthas have felt the lull in buying but because only a few refiners are making naphtha the effect on naphtha prices has not been as great as on prices of the other commodities. Doctor and corrosion test naphthas have been moving mostly at 11 cents a gallon, but untreated goods have been free at 10¾ cents this week, and in an instance or two this price has been bettered with immediate instructions.

The 450 end point gasolines have not been in demand since the tank wagon and refinery prices of U. S. Motor have been wide enough lately to give the jobber a fair profit by handling straight U. S. Motor.

Oklahoma and Kansas refiners have been in good technical position on U. S. Motor. Kansas refiners have been moving their production right along, most of them report. Oklahoma refiners have held crude runs down and have moved more gasoline than they have made so they have little gasoline in storage.

North Texas Bearish Factor

NORTH TEXAS refiners apparently have not been so fortunate because gasoline from that area has continued to enter consuming territory in competition with Group 3 gasoline. One refiner late last week sent out post cards offering U. S. Motor at 10¾ cents, but reports from Wichita Falls today indicated he has sold up and has not been offering any gasoline at less than 10¾ cents, although in a few instances gasoline has been available in north Texas at less than that price.

Competition from eastern refineries which have been pushing gasoline as far westward as possible, has handicapped the north Louisiana refiners this month, consequently they have been forced to make some low quotations in differential parts of Ohio in order to move their production. Virtually the same situation has prevailed in Arkansas.

The Sinclair Refining Co. early in the week bought approximately 1,000,000 gallons of 64-66, 375 e.p. gasoline from Texas refiners at 11⅜ cents a gallon. The company first took options on a little of that grade at 11½ cents, it was reported, but later found they could do 11⅜ cents on the quantity desired. The posted price for this grade purchased on contract by the Standard Oil Co. of New Jersey is 11.15 cents a gallon.

The Texas Co. inquired Friday in Oklahoma for approximately 100 cars of 60-62, 400 e.p. gasoline at 11 to 11⅛ cents a gallon, but as far as could be learned no orders were booked at that price. The company bought some 60-62 in north Texas, however, at that price, the amount being put at approximately 500,000 gallons..

These purchases, not being supported by any renewal of interest by other exporters, failed to have any effect on the higher gravity export markets.

Natural gasolines gained considerable ground during the week, prices moving up from ½ to ¾ cent. Grades A and AA were in good demand and material became relatively tight. Manufacturers reported that Grades B and BB were more plentiful whereas Grade C was extremely scarce. Several manufacturers continued to ship Grade BB on Grade C orders.

Kerosenes Settle

Kerosenes settled after their most recent advance, but apparently stopped on a firm foundation. Most kerosene in Oklahoma for prompt shipment is in the hands of marketers who bought long when the market was advancing two weeks ago. Two or three Kansas re-

(Continued on page 117)

Week's Price Changes T. W. Markets

Gasoline Changes

Standard of Kentucky—Gasoline t.w. and s.s. reduced 1 cent Louisville only Aug. 17.

Standard of New Jersey—Gasoline t.w. and s.s. reduced 1 cent Aug. 16 at Wheeling, Charleston, Parkersburg, Huntington and Morton, W. Va.

Magnolia Petroleum—T.w. and s.s. reduced 2 cents at Fort Worth Aug. 18 and 2 cents at Dallas Aug. 21.

Kerosene Changes

Standad of New Jersey—T.w. advanced 1 cent Aug. 19 throughout territory.

Standard of New York—T.w. advanced 1 cent Aug. 20 throughout territory.

Standard of Indiana—T.w. to be advanced 1 cent Aug. 24 throughout territory.

JENKINS CRACKING PROCESS

PRODUCES QUALITY GASOLINE

Facts from performance

A FIRST IMPRESSION

An interested refiner inspecting a Jenkins unit on approaching the plant asked why it was not running.

It *was* running at full capacity, quietly, with no escaping fumes, producing only gasoline and fuel oil, and doing this over 90% of the time.

GRAVER Corporation Founded 1857

EAST CHICAGO, INDIANA

NEW YORK Grand Cent. Term. | CHICAGO Steger Building | TULSA Atlas Life Bldg. | HOUSTON West Building

Refinery Markets on Light Oils and Lubricants

Pennsylvania, Oklahoma, North and South Texas, Louisiana, Arkansas, California

GASOLINE AND NAPHTHA

	Prices Aug. 23	Prices Aug. 16	Prices Aug. 9
PENNSYLVANIA			
52-54 Naphtha	12¾-13	12½-13	-13
54-56 Naphtha	13 -13¼	12¾-13	13 -13¼
58-60 Gasoline	13½-13¾	13¾-13½	13¾-13½
60-62 Straight-run gasoline	14 -14½	14 -14½	14 -14½
64-66 Straight-run gasoline	14½-15	14¾-15¼	14½-15
68-70 Straight-run gas. 350-360 E.P.	15¼-15½	-15½	-15½
68-70 Straight-run gas. 305-320 E.P.	19 -20	19 -20	19 -20
OKLAHOMA			
48-50 450 E. P. naphtha	-10¾	10¾-11	-11
50-52 450 E. P. naphtha	-10¾	10¾-11	-11
56-58 450 E. P. gasoline	10½-10⅝	10¾-11	11 -11¼
56-58 U. S. Motor gasoline	-10⅝	-11	11⅛-11¼
58-60 450 E. P. gasoline	10½-10⅝	10¾-11	11 -11⅛
58-60 U. S. Motor 437 E. P.	10⅝-11	11 -11⅛	11¼-11½
60-62 400 E. P. gasoline	11¼ 11½	11½-11¾	11¾-12
64-66 390 E. P. gasoline	*11½ 11⅝	* 11¾	-12
64-66 375 E. P. gasoline	*11⅝-11¾	*11¾-12	12 -12¼
68-70 350-360 E. P. gasoline	12 -12¼	-12½	-12½
64-66 437 E. P. blend	-10½	-10¾	10¾-11
KANSAS*			
58-60 U. S. Motor gasoline	11¼-11½	11½-11¾	-11¾
*F. O. B. refinery Kansas destination.			
NORTH TEXAS			
48-50 450 E. P. naphtha	-10¾	-10¾	10⅞-11
56-58 450 E. P. gasoline	10¼-10⅜	10⅝-10¾	10⅞-11
58-60 450 E. P. gasoline	-10½	-10¾	-11
56-58 U. S. Motor gasoline	10½-10⅝	10¾-10⅞	11 -11⅛
58-60 U. S. Motor gasoline	10½-10¾	10⅞-11⅛	11¼-11⅜
64-66 390 E. P. gasoline	* 11¼	-11½	-11¾
64-66 375 E. P. gasoline	11⅜-11½	*11½-11¾	-12
68-70 350-360 E. P. gasoline	12 -12¼	12 -12¼	-12¼
NORTH LOUISIANA			
58-60 U. S. Motor 437 E. P.	11 -11¼	11¼-11½	-11½
ARKANSAS			
58-60 450 E. P. gasoline	-10¾	-11	-11¼
58-60 U. S. Motor gasoline	10⅞-11⅛	-11¼	-11½
CALIFORNIA			
*54-58 U. S. Motor 437, E.P.	12 -12½	12 -12½	12 -12½
*58-61 U. S. Motor, 437 E.P.	-13	-13	-13
42-45 Engine distillate, 445-480 E.P.	9¼-10	9¼-10	9¼-11

Note: This is without the 2-cent state tax included in the price of California refiners for shipments within the state.

NEW ENGLAND (F. O. B. Boston and Fall River)			
58-60 U. S. Motor gasoline	-12¼	-12¾	-13

NATURAL GASOLINE

(Note: End point of all grades, not over 375° F.)

OKLAHOMA			
Grade Double A	- 9¼	- 9¼	8¼- 8¾
Grade A	- 9¼	- 9¼	8¼- 8¾
Grade Double B	9½- 9¾	- 9	8¾- 8¼
Grade B	9½- 9¾	- 9	8¾- 8¼
Grade C	- 9½	- 8¾	8¾- 8¼

NOTE—Specifications adopted by Ass'n. of Nat. Gaso. Manufacturers
Grade Double A—80-87.9 gravity, 90% recovery, not over 375 E. P.
Grade A—72-79.9 gravity, 90% recovery, not over 375 E. P.
Grade Double B—84-92 gravity, 85% recovery, not over 375 E. P.
Grade B—76-83.9 gravity, 85% recovery, not over 375 E. P.
Grade C—80-90 gravity, 78% recovery, not over 375 E. P.

NORTH LOUISIANA			
*Grade Double A	10¼-10½	- 9¾	- 9
*Grade Double B	10 -10¼	- 9½	8¾- 9
*Grade C	9¾-10	- 9¼	8½- 8¾
*F. O. B. Monroe District.			
NORTH TEXAS			
*Grade Double A	- 9¼	- 9¼	8¼- 8¾
*Grade A	- 9¼	- 9¼	8¼- 8¾
*Grade Double B	9½- 9¾	- 9	8¾- 8½
*Grade B	9½- 9¾	- 9	8¾- 8½
*Grade C	- 9½	- 8¾	8¼- 8¾
*F. O. B. Breckenridge.			
CALIFORNIA			
75-85° 375-390 E. P.	15½-16	15½-16	15¼-16
PENNSYLVANIA			
68-70 Grav. 437 E. P.	13½-14	13½-14	13½-14
64-66 Grav. 437 E. P.	13½-14	13½-14	13½-14
60-62 Grav. 437 E. P.	13½-14	13½-14	13½-14
68-70 Grav. 420 E. P.	13¾-14¼	13¾-14¼	13¾-14¼

BURNING OILS

PENNSYLVANIA			
45 Water White Kerosene	-10¼	9¾-10	9½- 9¾
46 Water White Kerosene	10½-10¾	10¼-10½	10 -10¼
47 Water White Kerosene	11 -11¼	10¾-11	10¾-11
OKLAHOMA			
41-43 Water White Kerosene	8¾- 9	8¾- 9	7¾- 8
42-44 Water White Kerosene	* - 9½	- 9½	- 8½
KANSAS			
41-43 w. w. kerosene	* - 9¼	* - 9¼	- 8¼
42-44 w. w. kerosene	10 -10¼	*9½- 9¾	- 8¾

†Quotations only, no sales recorded.
*Prices nominal

NORTH TEXAS	Prices Aug. 23	Prices Aug. 16	Prices Aug. 9
41-43 Water White Kerosene	8½ 8¾	8¾- 8¾	7½- 7¾
NORTH LOUISIANA			
41-43 Water White Kerosene	*9¼- 9¾	**8¾- 8¾	8 - 8¼
ARKANSAS			
41-43 Water White Kerosene	- 8½	8½- 8¾	- 8¾
CALIFORNIA			
38-40 Water White Kerosene	7½- 8	7¾- 8	7½- 8
NEW ENGLAND			
*40-43 Water White Kerosene	-10½	-10½	-10¼

NEUTRAL OIL

PENNSYLVANIA (Viscosity at 70° F.)			
200 Vis. No. 3 Assoc. Filt	28½-29	28¼-29	28½-29½
180 Vis. No. 3 Assoc. Filt	26 -26½	26 -26¼	25¾-26¼
150 Vis. No. 3 Assoc. Filt	23 -24	23 -24	23½-24
(Non-Viscous)			
34 Grav. 350-360 Flash	7¾ 8½	7¾- 8¼	7¾- 8¼
36 Miners Neutrals 300-305 Flash	7½- 7¾	7½- 7¾	7½- 7¾
OKLAHOMA (Viscosity at 100° F.)			
100 Vis. No. 2 color	7 - 7½	7- 7½	7 - 7½
150 Vis. No. 3 color	9 -10	9 -10	9 -10
150 Vis. No. 4 color	- 9¾	- 9¾	- 9¾
180 Vis. No. 3 color	10½-11½	10½-11½	10½-11½
180 Vis. No. 4 color	9¾-10½	9¾-10½	9¾-10½
180 Vis. No. 5 color	10 -10¼	10 -10¼	10 -10¼
200 Vis. No. 3 color	11 -12½	11 -12½	11 -12½
200 Vis. No. 4 color	-11½	-11½	-11½
200 Vis. No. 5 color	9¾-11¼	9¾-11¼	9¾-11¼
220 Vis. No. 3 color	12 -13½	12 -13½	12 -13½
220 Vis. No. 4 color	-13	-13	-13
220 Vis. No. 5 color	12 -12¾	12 -12¾	12 -12¾
240 Vis. No. 3 color	14 -15	14 -15	14 -15
240 Vis. No. 4 color	-14½	-14½	-14½
240 Vis. No. 5 color	13 -14	13 -14	13 -14
280 Vis. No. 3 color	16 -17	16 -17	16 -17
280 Vis. No. 4 color	-16½	-16½	-16½
280 Vis. No. 5 color	15 -16	15 -16	15 -16
300 Vis. No. 5-6 color	-17	-17	-17
GULF COASTAL (Viscosity at 100° F; cold test 0)			
100 Vis. No. 2 Color Unfilt. Pale	8 - 8½	8 - 8½	8 - 8½
200 Vis. No. 3 Color Unfilt. Pale	11½-12	12 -12½	12 -12½
300 Vis. No. 3 Color Unfilt. Pale	12½ 13	13 -13½	13 -13½
500 Vis. No. 3½ Color Unfilt. Pale	14½-15	14½-15	14½-15
750 Vis. No. 4 Color Unfilt. Pale	17½-18	18½-19	18½-19
200 Vis. No. 5½ Color Red Oil	9½ 10	10 -10½	10 -10½
300 Vis. No. 5½ Color Red Oil	11½ 12	11½-12	11½-12
500 Vis. No. 6 Color Red Oil	12½-13	12½-13	12½-13
750 Vis. No. 6 Color Red Oil	16 -16½	16½-17½	16½-17½
CALIFORNIA (Viscosity at 100° F.)			
100 Vis. No. 2 color	11 -11½	11 -11½	11 -11½
100 Vis. No. 3 color	8½- 9	8½- 9	8½- 9
200 Vis. No. 3 color	13½-14	13½-14	13½-14
300 Vis. No. 3 color	15 -15½	15 -15½	15 -15½
450 Vis. No. 3½ color	18 -18½	18 -18½	18 -18½
550 Vis. No. 3 color	20 -21	20 -21	20 -21
600 Vis. No. 3½ color	21 -22	21 -22	21 -22
100 Vis. No. 5 color	7 - 7½	7 - 7½	7 - 7½
200 Vis. No. 5 color	12 -12½	12 -12½	12 -12½
300 Vis. No. 5 color	13 -13½	13 -13½	13 -13½
400 Vis. No. 5 color	15 -16	15 -16	15 -16
500 Vis. No. 5 color	16 -17	16 -17	16 -17
600 Vis. No. 6 color	17 -18	17 -18	17 -18
700 Vis. No. 7 color	18 -19	18 -19	18 -19

CYLINDER STOCKS

OKLAHOMA			
190-200 Vis. at 210° Bright Stock	31 -35	31 -35	31 -35
150-160 Vis. at 210° Bright Stock	28½-31	28½-31	28½-31
600 E Stock, 140-150 Vis. — 210°	-18	-18	-18
600 Steam Refined Olive Green	8 -11	8 -11	8 -11
600 Steam Refined Dark Green	6 - 8	6 - 8	6 - 8
Black Oil	5 - 6	5 - 6	5 - 6
Petroleum Coke (per ton)		$2 to $5	
PENNSYLVANIA (1-inch Immersion Test)			
600 Steam Refined	14 -14½	13½-14½	14 -14½
650 Steam Refined	19 -19½	19 -20	19 -20
600 Flash	22½ 23	22½-23	22 -23
625 Flash	32½ 33	32½-33	32½-33
600 Warren E	20½ 21	20 -20½	20 -20½
600 Oil City E	-19	19 -19½	19½-20
600 D Filtered	26¼-26½	.....	.....
Cold Test Stocks (bright filtered)	41 -42	41 -42	-41
Cold Test Stock (dark filtered)	39 -40	39 -40	-39

(Note—Prices of total immersion test goods average 1 to 3 cents per gallon higher.)

Above prices are f. o. b. refinery in tank car. They are the prices at which the bulk of the products on the open market move. Whoever has knowledge of any open market prices on any considerable quantity of goods differing from the foregoing, will favor us with this information.

*Only one refiner quoting.
**Nominal.

Desert sand

Mountain roads

And the Oil Drillers Kept On Drilling!

Mountain roads, desert sand, sharp curves and steep grades made it impossible to continue oil-drilling operations in the mountains back of Santa Fé Springs, California—until this Autocar came along!

"BUT I tell you you've got to get a load of fuel oil in to us; we'll have to close down if you cannot do it. We're depending on you to get it to us."

"It can't be done!" shot back the emphatic reply. "You know as well as I do that we've tried it with three different makes of trucks and they—"

"I know you have, but you've got to try it again. We're after oil and we're going to strike it there. We've got to keep our drills going. It's up to you to find a truck that can get fuel in to us."

Some similar conversation to that must have taken place between the manager of the Essley Trucking Company of Santa Fe Springs, Calif., and the superintendent of an oil-drilling operation seventeen miles back over the mountains.

But let the Essley Trucking Company, who sent the pictures reproduced on this page, give a report of this hauling job in their own words:

"The accompanying photographs serve to illustrate the ability of the Autocar type 27-KA to negotiate the extremely difficult mountain grades and turns. The haul represents fourteen miles of mountain roads, and three miles of heavy desert sand. The turns are very sharp and Autocars are the only trucks I have in my fleet that can negotiate them.

"The tank capacity is 1100 gallons, making a total load of five tons. Due to the Autocar, the oil wells to which we are hauling have been able to continue in operation, though they were previously practically forced to shut down because other trucks were unable to deliver a pay load to the job.

"We would like to add that our two Autocars are the most satisfactory trucks under all conditions that we have and that their economy of operation and the Direct Factory Branch service should prove a great asset to any truck operator."

Sharp curves and steep grades

The Autocar Company
ESTABLISHED 1897
Ardmore, Pa.
Branches in 49 Cities

Autocar Trucks

Refinery Markets on Wax and Heavy Oil Products

Pennsylvania, Oklahoma, North and South Texas, Louisiana, Arkansas, California

WAX

PENNSYLVANIA	Prices Aug. 23	Prices Aug. 16	Prices Aug. 9
	(Per Pound, New York)		
122-124 White Crude Scale..	5⅜- 5¾	5⅜- 5¼	5⅜- 5¼
124-126 White Crude Scale..	5¼- 5⅜	5¼- 5⅜	5¼- 5⅜
OKLAHOMA			
	(Per Pound, Group 3)		
124-126 White Crude Scale..	- 4¾	4¾- 4⅞	4¾- 5
CALIFORNIA			
White Crude Scale.....	6 - 7	6 - 7	6 - 7

FUEL OIL

PENNSYLVANIA			
36-40 Fuel Oil.....	6 - 6½	6¼- 6¾	6¼- 6⅝
30-34 Fuel Oil.....	- 5¾	5½- 5¾	5¾- 5⅞
28-30 Fuel Oil.....	5¼- 5⅝	5½- 5⅞	5⅝- 5⅞
OKLAHOMA			
38-40 Straw distillate.....	5⅜- 5⅝	5¼- 5½	- 5¼
36-38 Straw distillate.....	5⅜- 5⅜	5 - 5¼	- 5
32-36 Gas oil, cracked (Gal.)	4⅜- 4¼	4⅜- 4¼	4 - 4⅜
32-36 Gas oil, uncracked (Gal.)	4¼- 4⅜	4¼- 4⅜	4⅜- 4¼
26-30 Fuel oil (Bbl.).....	1.55 -1.60	1.40 -1.45	1.35 -1.45
24-26 Fuel oil (Bbl.).....	1.40 -1.45	1.35 -1.40	1.30 -1.35
22-26 Fuel oil (Bbl.).....	1.37½-1.40	1.32½-1.35	-1.30
18-22 Fuel oil (Bbl.).....	1.32½-1.35	1.30 -1.32½	1.25 -1.27½
14-18 Fuel oil (Bbl.).....	1.27½-1.30	1.25 -1.30	1.20 -1.22½
KANSAS*			
38-40 Light straw distillate..	- 5¾	5½- 5¾	- 5½
36-38 Light straw distillate..	5⅜- 5½	5¼- 5⅜	5 - 5¼
32-36 Gas Oil.....	4½- 4⅝	- 4½	- 4½
18-22 Fuel Oil.....	1.40 -1.45	1.35 -1.40	-1.30
24-26 Fuel Oil.....	1.55 -1.65	1.40 -1.55	1.35 -1.45
*F. O. B. refinery, Kansas destination.			
NORTH TEXAS			
38-40 Straw Distillate.....	5⅛- 5¼	5⅛- 5⅜	5⅛- 5⅜
32-36 Gas Oil (Gal.) cracked	- 4½	- 4½	- 4⅝
32-36 uncracked gas oil.....	- 4½	- 4½	4⅜- 4½
24-26 Fuel per (Bbl.).....	1.45 -1.50	-1.50	1.47½-1.50

GULF COASTAL	Prices Aug. 23	Prices Aug. 16	Prices Aug. 9
Fuel.....	1.60 -1.65	1.60 -1.65	1.60 -1.65
Gas Oil.....	5⅝- 5¾	5⅝- 5¾	5⅝- 5¾
NORTH LOUISIANA			
32-36 Light Gas Oil (Gal.)..	4½- 5	4¾- 5	4¾- 4¾
16-20 Fuel Oil (Bbl.).....	1.35 -1.40	1.32½-1.37½	1.32½-1.37½
ARKANSAS			
32-36 Gas Oil.....	4⅜- 4¾	4½- 4¾	- 4½
Smackover Crude Fuel.....	1.25 -1.30	1.22½-1.30	1.22½-1.30
Road oil.....	1.30 -1.36¼	1.30 -1.36¼	1.30 -1.36¼
CALIFORNIA*			
14-18 Fuel Oil (Bbl.).....	1.00	1.00	1.00
14-18 Bunker Oil (Bbl.)....	1.00	1.00	1.00
24-30 Gas Oil (Bbl.).....	1.15	1.15	1.15
27 + Diesel Oil (Bbl.).....	1.15	1.15	1.15
*(San Joaquin Valley, San Francisco 4c per bbl. more.)			
NEW ENGLAND			
	(F. O. B. Boston and Fall River)		
30-32 Gas Oil (Gal.).....	- 6¼	- 6	- 5¾
Fuel Oil (Bunker C) Bbl...	-1.82½	-1.82	-1.80

PETROLATUMS

PENNSYLVANIA			
Snow White.....	8½- 9	-11	-11
Lily White.....	7½- 8	- 9½	- 9½
Cream White.....	- 6½	- 6¾	- 6¾
Light Amber.....	- 3½	- 3⅞	- 3⅞
Amber.....	3¼- 3½	- 3½	- 3¾
Red.....	- 3	3⅛- 3⅜	3⅛- 3⅜
Green #5.....	1¾- 2	1⅝- 1¾	1⅝- 1¾

Above prices are f. o. b. refinery in tank car. They are the prices at which the bulk of the products on the open market move. Whoever has knowledge of any open market prices on any considerable quantity of goods differing from the foregoing, will favor us with this information.

(Continued from page 113)

finers have been buying kerosene on the outside to take care of their requirements, and almost without exception they say they have been unable to get prompt shipment on goods already bought.

There is little kerosene in either Arkansas or north Louisiana, and the market remained firm in that area. The same condition applies to north Texas.

Distillate prices have become almost nominal in Oklahoma since refiners who are making this oil are holding for expected higher prices later in the year.

Gas oil is steady although demand is not so strong as it has been in previous weeks. The Texas Co. has been buying a large quantity in north Texas at intervals and was reported to be in the market yesterday but no sales were revealed.

Fuel oils present one of the most unusual situations in the market. Reports from Mid-Continent refineries indicate stored fuel is piling up rapidly, but considerable effort is required to find fuel oil for spot shipment.

Prices are practically as high now as they were at the peak of the season last year. It has been customary for large industrial consumers to lay in a big supply of fuel in July and August when prices have been low. This year fuel oil prices did not become as low as many expected, and the storage buying was delayed until early this month.

Refiners, from past experience, were expecting this buying and despite the fact that no unusually large orders have been reported there has been a sufficiently large movement of fuels to back refiners in their relatively high quotations. Inquiries for the most part have been met by the refiner with the statement that he is either sold up or has nothing to offer.

Few contracts have been made meanwhile for the winter months, buyers and sellers apparently being unable to get together on what they consider would be a fair price for over the season. The salesmanager of one of the largest refineries in the Mid-Continent said recently, however, that he would consider a sale on the present market price for delivery the remainder of this year a good one for the refiner.

Several refineries have been drawing heavily from stocks for their crude charges, and as these crude storage tanks become empty fuel oil has been run into them. One large refinery by storing fuel all last summer in this manner was able to make the storage equipment show a profit of $75,000 to $100,000, the salesmanager for the plant said.

Correction

In Aug. 16 issue prices for the following California products should have been:

54-58 U. S. Motor gasoline 12-12½ cents.

58-61 U. S. Motor gasoline 13 cents.

42-45 Engine distillate 9¼-10 cents.

Benzol Prices Steady

By Special Correspondent

NEW YORK, Aug. 23.—Consumption of motor benzol is heavy but there appears to be less buying interest shown in future deliveries. Production has been large enough to take care of demands and prices hold steady. Spot motor benzol in tank cars at the ovens is still quoted at 25 cents a gallon. Jobbing demand has been a shade more spirited.

Export inquiries are more numerous but no bulk sales were heard of. The movement in pure and 90 per cent benzol is larger but prices are unchanged. Offerings for immediate delivery are larger than a week ago.

Gulf Coastal Inquiries Firmer

HOUSTON, Aug. 21.—Inquiries for fall deliveries are brisker in the Gulf Coastal lubricant market. Shipments are normal for the season. Business against winter requirements has not been closed to the extent expected for the first half of August, but manufacturers are looking ahead to the closing of contracts in the next few weeks. Manufacturers describe the general market tone as firmer at recent price levels although a few revisions have been made.

Market Section

Texas, Arkansas and Louisiana Gasoline Bearing the Market

Staff Special.

CHICAGO, Aug. 21.—Despite the efforts of Oklahoma refiners to hold their gasoline prices this week, the steady stream of offers of surplus material from north Texas, Arkansas and the Shreveport district at prices which consistently average a quarter of a cent under those in Group 3, apparently has been the bearish factor in the Chicago gasoline market which has brought actual going prices down to about one-half cent under those prevailing a week ago.

The 58-60 U. S. Motor gasoline today is averaging 10¾ to 11 cents against the 11¼ to 11½ cent position it held last Saturday. A few refiners still hold their quotations at 11¼ cents but admit they are getting no business to speak of at this price.

Jobbers, fearing the possibility of a reduction in tank wagon price of gasoline in Standard Oil Co. of Indiana territory, are buying about one-fourth as much gasoline as they normally would at the present rate of consumption. Their purchases are limited to one and two car lots, and many of the Chicago trade report that even orders of this nature are scarce. One Chicago dealer last week sold 47 cars of 58-60 U. S. Motor gasoline of which 28 were one car orders. A large Chicago marketer stated that out of approximately 50 long distance calls to the jobbing trade he succeeded in selling 30 cars of gasoline.

It appears that Oklahoma gasoline is now almost completely crowded out of Ohio, a territory which at one time served as outlet for considerable motor fuel from Group 3. A quotation of 10⅛ cents on 58-60 U. S. Motor gasoline, f.o.b. Group 3, for shipment into Cincinnati failed to get the order of a large jobber who was in the market this week. Lower priced stuff from the Shreveport district took the business. Large quantities of California gasoline coming from the east to as far west as Detroit and nearby points also is greatly hampering the outlet for Oklahoma gasoline.

Some of the smaller refiners in Oklahoma apparently are anxious to move gasoline. Several propositions have been received by Chicago marketers in the latter days of this week offering large quantities of 56-58, 450 end point gasoline in which there was no mention of prices; the refiners simply asked for bids for the material.

Kerosene at 8½ to 8¾ cents is bringing just twice as much as it was one year ago today. Prices reacted slightly late this week after the bound they took last week with the advance in tank wagon. The above quotation is for 41-43 w.w. kerosene; 42-44 gravity material is practically out of the market due to scarcity. The strength in kerosene this week has been caused largely by the buying of a few refiners who oversold at the time the market advanced and now need material to cover the orders on their books, and not to any appreciable pick-up in jobbing demand.

There is little apparent change in the furnace oil and fuel oil situation this week. Straw color distillate of 38-40 gravity continues firm at around 5½ cents. Spot gas oil is steady; cracked goods of 32-36 gravity are bringing from 4¼ to 4⅜ cents and uncracked material is held at 4½ to 4⅝ cents.

The limited amount of fuel oil available in the field for fairly prompt shipment holds the spot market strong; prices are firm although they ceased to advance 2½ cents every other day about the middle of this week. Fuel oil of 18-22 gravity is held at $1.35 to $1.37½ and 24-26 is tight at $1.42½ to $1.45. Smackover is firm at $1.25 to $1.27½ although some business is still being taken on by a few dealers at $1.22½.

Future buying on the heavier oils was a little more active this week. Some 28-30 gravity oil, zero cold test, was contracted for at a flat price of $1.67½ over the winter. Smackover also has been offered at a flat price of $1.35 over the winter. A sliding scale proposition has been made on gas oil in a few instances also; namely, 4¾ cents for October and November; 5 cents for December; 5 cents for January and February; and 5 cents for March and April.

A heat wave is predicted for most of the Middle West about Wednesday and Thursday of next week; at other times during the week, temperatures will average above the seasonal normal and the week will be interspersed with occasional showers and thunderstorms.

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Petroleum Markets-Every Day

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CHICAGO—360 N. Michigan Ave.
CLEVELAND—859 Caxton Bldg.

Asks Coast Refiners To Study Pollution

NEW YORK.—Oil companies with refineries, tank farms or terminals adjacent to navigable waters should make a survey of conditions at their plants in regard to pollution of the waters by oil, it is suggested in a letter sent to the directors and councilors of the American Petroleum Institute by R. L. Welch, general secretary of the Institute.

Mr. Welch's letter follows:

"On July 12, 1926 a communication was sent to the board of directors and the board of councilors of the Institute in relation to the recommendation of the chief of engineers of the U. S. Army that the oil pollution act of 1924 be made applicable to land plants.

"In view of the possibility of the next congress considering the subject and enacting into law the recommendation referred to, I am taking the liberty of suggesting to the members of the Institute having refineries, terminals, tank farms, etc., adjacent to navigable waters, or their tributaries, that a careful survey be made of such plants prior to the next session of congress.

"If such a survey is made, the Institute will be very glad to compile the information relative to existing conditions at the various plants, together with measures now being taken for the prevention of oil pollution. The data would be of inestimable benefit to the committee on oil pollution of the Institute if it should become necessary to appear in Washington.

"It is taken for granted that every company which would be affected by the adoption of the chief of engineers' suggestion is already taking all possible steps to eliminate the pollution of navigable waters in the vicinity of its plants, to the end that it may be demonstrated to congress that further legislation dealing with the subject is unnecessary.

"I shall be very glad to hear from those companies which will comply with this request."

Wadhams Oil Co. Move Office

TULSA, Aug. 21.—The Wadhams Oil Co. moved their office from the Atlas Bldg. to 711 Mid-Continent Bldg., according to W. P. Jacobi, manager.

Tank Wagon, Service Station Markets for Gasoline and Kerosene In United States Territories and Canada

These Prices in Effect Aug. 23, 1926

S.O. NEW JERSEY TERRITORY

	Gasoline T.W.	Tax	Total T.W.	S.S.	Oil T.W.
Atlantic City, N. J.	19	0	19	*	17
Newark, N. J.	19	0	19	21	17
Annapolis, Md.	19	2	21	*	17
Baltimore, Md.	19	2	21	24	17
Cumberland, Md.	19	2	21	24	17
Washington, D. C.	19	2	21	24	17
Danville, Va.	19	4½	23.5	*	17
Norfolk, Va.	19	4½	23.5	26.5	17
Richmond, Va.	19	4½	23.5	26.5	17
Roanoke, Va.	19	4½	23.5	26.5	17
Petersburg, Va.	19	4½	23.5	*	17
Williamsburg, Va.	19	4½	23.5	*	17
Charleston, W. Va.	18	3½	21.5	24.5	17
Clarksburg, W. Va.	19	3½	22.5	25.5	17
Keyser, W. Va.	19	3½	22.5	*	17
Parkersburg, W. Va.	18	3½	21.5	24.5	17
Wheeling, W. Va.	18	3½	21.5	24.5	17
Charlotte, N. C.	19.5	4	23.5	26.5	17
Hickory, N. C.	19.5	4	23.5	*	17
High Point, N. C.	19.5	4	23.5	*	17
Mt. Airy, N. C.	19.5	4	23.5	*	17
Salisbury, N. C.	19.5	4	23.5	*	17
Charleston, S. C.	19.5	5	24.5	27.5	17
Columbia, S. C	19.5	5	24.5	27.5	17

*Dealers set own prices. S. O. New Jersey does not operate station.

S. O. NEW YORK

*New York City	21	0	21	25	18
Albany, N. Y.	17	0	17	19	18
Buffalo, N. Y.	20	0	20	23	18
Rochester, N. Y.	21	0	21	25	16
Syracuse, N. Y.	21	0	21	23	18
Boston, Mass.	21	0	21	23	18
Augusta, Me.	21	3	24	27	18
Manchester, N. H.	21	2	23	27	18
Burlington, Vt.	21	2	23	25	18

*In steel barrels.

ATLANTIC REFINING

Pittsburgh, Pa.	20	0	20	*25	17
Philadelphia, Pa.	20	0	20	*25	17
Allentown, Pa.	20	0	20	*25	17
Erie, Pa.	18	0	18	*23	15
Scranton, Pa.	20	0	20	*25	17
Altoona, Pa.	20	0	20	*25	17
Dover, Del.	20	2	22	25	17
Wilmington Del.	20	2	22	25	17
Providence, R. I.	21	1	22	24	18
Boston, Mass.	21	0	21	23	18
Springfield, Mass.	21	0	21	23	18
Worcester, Mass.	21	0	21	23	18
Hartford, Conn.	21	2	23	26	17
New Haven, Conn.	21	2	23	26	18

*Contains 2-cent tax collected by retail dealer and paid by him directly to state.

S. O. KENTUCKY

Lexington, Ky.	20	5	25	28	18
Louisville, Ky.	19	5	24	27	17
Covington, Ky.	19	5	24	27	18
Clarksdale, Miss.	19	4	23	26	16.5
Jackson, Miss.	19	4	23	26	16.5
Natchez, Miss.	18.5	4	22.5	25.5	16
Vicksburg, Miss.	18.5	4	22.5	25.5	16
Birmingham, Ala.	20	2	22	25	18.5
Mobile, Ala.	19	2	21	24	17
Montgomery, Ala*	21	2	23	26	19.5
Atlanta, Ga.	†21	3½	25	28	19
Augusta, Ga.	†21	3½	25	28	19
Macon, Ga.	†21	3½	25	28	19
Savannah, Ga.	†19	3½	23	25	17
Jacksonville, Fla.	19	4	23	26	17
Miami, Fla.	21	4	25	28	18.5
Tampa, Fla.	19	4	23	26	17
Pensacola, Fla.	19	4	23	26	17.5

*Local privilege tax of 1 cent on gasoline and ½ cent on kerosene at Montgomery included.

†Georgia has ½ cent per gal. inspection fee on gasoline which is deducted as well as the state gasoline road tax of 3½ cents, to get the actual net tank wagon market to dealer.

S. O. INDIANA

	Gasoline T.W.	Tax	Total T.W.	S.S.	Oil T.W.
Chicago, Ill.	†19	0	†19	21	14.5
Decatur, Ill.	19.2	0	19.2	21.2	15
E. St. Louis, Ill.	18.1	0	18.1	20.35	14.1
Joliet, Ill.	19.4	0	19.4	21.4	15.2
Peoria, Ill.	19.2	0	19.2	21.2	15
Quincy, Ill.	19.2	0	19.2	21.2	14.8
Indianapolis, Ind.	19.2	3	22.2	24.2	15.2
Evansville, Ind.	19	3	22	24	15
South Bend, Ind.	19.4	3	22.4	24.4	15.4
Detroit, Mich.	19.8	2	21.8	23.8	15.7
Grand Rapids, Mich.	19.7	2	21.7	23.7	15.6
Saginaw, Mich.	19.9	2	21.9	23.9	15.8
Madison, Wis.	19.3	2	21.3	23.3	15
Milwaukee, Wis.	19.1	2	21.1	23.1	14.8
La Crosse, Wis.	20.2	2	22.2	24.2	15.9
Minneapolis, Minn.	20.2	2	22.2	24.2	16.1
Duluth, Minn.	20.5	2	22.5	24.5	16.1
Mankato, Minn.	20.1	2	22.1	24.1	15.9
Des Moines, Iowa	19.5	2	21.5	23.5	15.4
Davenport, Iowa	19.5	2	21.5	23.5	15.4
Sioux City, Iowa	19	2	21	23	15
Mason City, Ia.	19.5	2	21.5	23.5	15.4
St. Louis, Mo.	*18.6	2	20.6	22.9	14.5
Kansas City, Mo.	††19.9	2	21.9	23.9	13.8
St. Joseph, Mo.	*19	2	21	23	14.4
Fargo, N. D.	21.9	2	23.9	25.9	18.1
Grand Forks, N. D.	22.2	2	24.2	26.2	18.4
Minot, N. D.	21.9	2	23.9	25.9	18.1
Pierre, S. D.	20.5	3	23.5	25.5	16.6
Huron, S. D.	20.5	3	23.5	25.5	16.6
Wichita, Kans.	**17.8	2	19.8	21.8	14.3
Bartlesville, Okla.	17.8	3	20.8	22.8	14.3

†Dumps of 100 or more gallons at 18c per gallon.
*Includes city tax of ½c.
††Includes city tax of 1c.
**Dumps of 50 gallons or more in Kansas, 1c discount per gallon.

S. O. NEBRASKA

Crawford, Neb.	20	2	22	*	15.75
Omaha, Neb.	19.25	2	21.25	23.25	15
McCook	20.75	2	22.75	24.75	16.5
Norfolk	19.75	2	21.75	23.75	15.5
North Platte	20.75	2	22.75	24.75	16.25
Scottsbluff	20.25	2	22.25	24.25	15.25

*Standard has no service station here.

CONTINENTAL OIL

Denver, Colo.	20	2	22	22	17
Pueblo, Colo.	20	2	22	24	17
Casper, Wyo.	20	2½	22.5	24.5	15.5
Cheyenne, Wyo.	21	2½	23.5	25.5	17
Butte, Mont.	22	2	24	24	19.5
Helena, Mont.	24	2	26	28	19.5
Salt Lake City, Utah.	22.5	3½	26	28	18.5
Boise, Ida.	24	3	27	29	20.5
Albuquerque, N. M.	25.5	3	28.5	28.5	19

S. O. CALIFORNIA

Phoenix, Ariz.	22	3	25	28	21.5
Los Angeles, Cal.	14.5	2	16.5	20.5	15.5
Fresno, Cal.	16.5	2	18.5	22.5	17.5
San Francisco, Cal.	16	2	18	22	15.5
Reno, Nev.	19.5	4	23.5	27.5	19
Portland, Ore.	16	3	19	23	16.5
Seattle, Wash.	16	2	18	22	16.5
Spokane, Wash.	20	2	22	26	20.5
Tacoma, Wash.	16	2	18	22	16.5

S. O. LOUISIANA

Little Rock, Ark.	18	4	22	25	16
Alexandria, La.	18	2	20	23	17
Baton Rouge, La.	17	2	19	22	15.5
Lake Charles, La.	18.5	2	20.5	23.5	17
New Orleans, La.	*18.5	2	20.5	23.5	16
Shreveport, La.	17	2	19	22	16
Lafayette, La.	18	2	20	23	16.5
Bristol, Tenn.	21	3	24	27	17.5
Chattanooga, Tenn.	20.5	3	23.5	26.5	17.5
Knoxville, Tenn.	20.5	3	23.5	26.5	18
Nashville, Tenn.	18	3	21	24	18
Memphis, Tenn.	17	3	20	23	17

*Includes 1c city tax on gasoline and kerosene.

S. O. OHIO

	Gasoline T.W.	Tax	Total T.W.	S.S.	Oil T.W.
All Ohio points	20	2	22	24	16

MAGNOLIA PETROLEUM

Muskogee, Okla.	17	3	20	23	14
Oklahoma City	15	3	18	21	14
Tulsa, Okla.	17	3	20	23	14
Fort Smith, Ark.	18	4	22	25	15.5
Little Rock, Ark.	18	4	22	25	15.5
Texarkana, Ark*	20	4	24	24	15
Dallas, Tex.	18	1	**21	21	14
El Paso, Tex.	21	1	**22	22	15
Fort Worth, Tex.	18	1	*21	21	14
Houston, Tex.	20	1	**21	21	14
San Antonio, Tex.	18	1	**19	19	14

*Within city of Texarkana, Ark., the state tax on gasoline is 1c per gal. conforming with the Texas state tax. In Texarkana district outside of the city the 4c state tax applies.

**Magnolia is maintaining only one price schedule in Texas—its retail schedule. This is in keeping with its contract, effective May 5, which allows the dealer 3c off the retail price.

V. M. & P. NAPHTHA

(Changes ordinarily occur coincident with gasoline price changed)

	Oleum Spirits	V.M.&P. Naphtha	Cleaners Naphtha
Chicago	21	23	21
Detroit	22.2	24.7	22.7
Kansas City	21.2	23.2	21.2
Milwaukee	21.2	*25.7	*23.7
Minneapolis	*24.5	*27	*25
St. Louis	20.4	22.9	22.2
New York	...	22	....

*Includes 2c state tax.

CANADA

(Per Imperial Gallon, which is 1.2 American Gallons)

ONTARIO

	Gasoline T.W.	Tax	Total T.W.	S.S.	Oil T.W.
Toronto	26.5	3	29.5	33	24
Ottawa	26.5	3	29.5	33	24
Cochrane	31.5	3	34.5	40	29
Ft. William	28.5	3	31.5	36	26.5

MANITOBA

Winnipeg	29.5	3	32.5	36	26.5

SASKATCHEWAN

Regina	32.5	0	32.5	37	29.5

ALBERTA

Edmonton	31.5	2	33.5	37	28.5
Calgary	29.5	2	31.5	35	26.5

BRITISH COLUMBIA

Vancouver	23	3	26	30	23

QUEBEC

Montreal	26.5	3	29.5	33	24
Quebec City	28.5	3	31.5	35	26
Three Rivers	28.5	3	31.5	35	26

NEW BRUNSWICK

St. John	29.5	3	32.5	36	27
Moncton	29.5	3	32.5	36	27.5

NOVA SCOTIA

Halifax	29.5	3	32.5	36	27
Sydney	31.5	3	34.5	37	27.5

PRINCE EDWARD ISLAND

Charlottetown	29.5	3	32.5	36	27

Note: In districts surrounding these points 1c additional is added to city price.

More Interest In Export Kerosene, Gasoline is Easier

By Special Correspondent
NEW YORK, Aug. 23

THE upward swing in kerosene both bulk and tank wagon, at New York and Gulf ports featured the market last week. While export buying has been lighter, this has been more or less due to the inability of buyers and refiners to get together due to the steady advances. Export demand for gasoline lagged. Gas oil held steady. Lubricants are a shade steadier. Bunker oil is firmer.

Paraffin waxes ruled dull and weak.

European buying interest is swinging from gasoline to kerosene and the fuel oils. Stocks of the latter are small, while consumption of gasoline is expected to show a steady decrease shortly.

Export Gasoline—New York

U. S. Motor gasoline was freely offered at 12½ cents a gallon at New York harbor refineries although one or two refiners were asking 12¾ cents. A large French buyer has been inquiring for 50,000 barrels of U. S. Motor and 64-66 gravity 375 end point gasoline for September shipment but is apparently bidding much below refiners' ideas. A leading refiner is rumored to have closed a cargo of 45,000 barrels of U. S. Motor at 12¼ cents; Prime white at 9¼ cents and water white at 10½ cents for September shipment to the United Kingdom. Cased gasoline is holding up well at unchanged prices. The inquiry is more active but the bulk of the activity is still against contracts.

Export Gasoline—Gulf Ports

The price situation showed little change from the previous week. Export buying was very light. U. S. Motor was generally quoted at from 12 to 12¼ cents a gallon.

The asking price for 60-62 gravity 400 end point was 12½ cents a gallon while 61-63 gravity 390 end point was freely offered around at 12¾ cents a gallon. For 64-66 gravity, 375 end point, the asking price ranged from 13½ to 13⅝ cents a gallon.

There was a report current that one of the leading Independents booked 55,000 barrels of U. S. Motor at 12 cents; 64-66 gravity 375 end point at 13½ cents; prime white kerosene at 8½ cents and water white at 10 cents a gallon, for September shipment to the Continent but confirmation was lacking. Cased gasoline was quiet but steady with U. S. Motor quoted at $2.20 a case and 64-66 gravity, 375 end point at $2.40 a case, in cargo lots.

Domestic Gasoline—New York

Jobbing demand for U. S. Motor gasoline is steady but mainly for immediate and nearby delivery. The inquiry for future shipments is light. Jobbers are bearish in their views and feel that the longer they hold off the better are the chances of securing lower prices. U. S. Motor at the local refineries is held at 12½ cents a gallon, and in tank cars delivered to the trade at 13½ cents a gallon. No tank wagon price changes were heard of during the week.

Domestic Gasoline—Gulf Ports

The situation showed a slight improvement over a week ago. Demand for local jobbers was a trifle more active which was attributed to improved weather conditions. At the local refineries U. S. Motor was offered at 12¼ cents a gallon. Some buyers are less inclined to purchase ahead as a result of the slash in the gasoline service station prices in Nebraska, but no tank wagon changes have been heard of in this vicinity.

Export Kerosene—New York

Featuring this market was the announcement on Tuesday by the Standard Oil Co. of New Jersey of an advance of ¼ cent a gallon in the price of cased kerosene. This was followed on Thursday by the announcement by the Sinclair Consolidated Oil Corp. of an advance of ½ cent a gallon in bulk kerosene at its Atlantic seaboard terminals. Water white kerosene is now held at 10½ cents a gallon, refinery, while prime white has been advanced ½ cent to 10 cents a gallon at the refineries. European buyers are following the trend of the market closely and it is reported that two cargoes for nearby shipment to the Continent have been closed but details have been kept quiet. Cased kerosene is steady but dull.

Export Kerosene—Gulf Ports

Export demand for kerosene was better. A leading refiner is negotiating for the sale of 40,000 barrels of prime and water white kerosene for September shipment to the Continent while a leading Independent refiner expects to sell 50,000 barrels of prime and water white along with U. S. Motor gasoline for September shipment to England. Water white kerosene is now held at 10¼ to 10½ cents a gallon while prime white is quoted at 9 cents a gallon with a possibility of still doing 8¾ cents on a firm bid. Cased water white is held at $2.10 while prime is steady at $1.95 a case in cargo lots.

Domestic Kerosene

On Thursday the Standard Oil Co. of New Jersey announced an advance of 1 cent a gallon, in the kerosene tank wagon price throughout its territory. Bulk water white was marked up ½ cent on Thursday and is now held at 10½ cents a gallon refinery and 11½ cents a gallon in tank cars delivered to the trade. Prime white is quoted at 10 cents refinery and 11 cents delivered in tank cars. The jobbing demand is much better than a week ago.

Waxes—New York

Trading was less active than during the preceding week. The demand was strictly hand-to-mouth and while prices were easier in tone, no actual fluctuations were reported. The jobbing demand is very disappointing and refiners appeared more inclined to make concessions in order to stimulate the demand. Export buying was practically at a standstill. Local factors reported cabling offerings to European buyers without even receiving a reply. White crude scale 122-124 A.m.p. was freely offered around at 5⅛ cents a pound while fully refined, 120-122 A.m.p. was offered at 5¾ cents with practically no buying interest.

Exports From Tampico District

Company	June	July
Transcontinental Petroleum Co., (Standard of New Jersey)	1,218,562	1,084,470
Pan American Eastern Oil Co	3,323,394	3,046,841
Mexican Eagle Oil Co., (El Aguila)	868,594	1,177,815
Cia. Mexicana Holandesa "La Corona"	573,066	905,623
The Texas Co. of Mexico, S. A.	260,633	277,989
Mexican Gulf Oil Co	163,685	233,330
Sinclair Mexican Companies	278,087	577,401
East Coast Oil Co. of Mexico, S. A., (Southern Pacific)	87,233	49,691
Panuco-Boston Oil Co	48,859	40,751
Mexican Oil Products Co	38,620	58,110
Empire Gas & Fuel Co	69,543	63,283
La Espuela Oil Co	258,795	46,312
Pierce Oil Corp	130,125	105,289
Mexican Atlas Oil Co	94,404	45,213
Interocean Oil Co	.....	.....
Moctezuma Terminal	.....	51,175
Totals	7,413,600	7,763,293

Waxes—Gulf Ports

Although domestic demand was unusually light, the inquiry from the Continent for white crude scale wax was more spirited and prices were steady. Buying orders were scarce as ever but the refiners look for a better export demand during the next few weeks. White crude scale 124-126 A.m.p. was offered at 5.05 cents a pound against 5.10 cents the previous week. For 124-126 A.m.p. semi-refined the asking price was 5.15 cents a pound which also showed a decline of 5 points from the previous week. Fully refined 123-125 A.m.p. was offered at 5⅝ cents while 135-137 A.m.p. fully refined was quoted at 6⅝ cents a pound.

Bunker Oil—New York

Grade C bunker oil held firm last week. Contract deliveries have been heavier and the price of grade C was firmly maintained at $1.75 a barrel at the refineries and $1.81½ a barrel f.a.s. New York harbor. Export demand for bunker oil was not up to expectations.

Bunker Oil—Gulf Ports

The export inquiry for this oil was better. A European buyer was reported inquiring for 45,000 barrels for September shipment but whether this materialized was not made known. Gulf refiners were asking $1.40 a barrel in cargo lots and $1.60 a barrel for bunkering purposes. The domestic demand for bunker oil is more active and one or two refiners were asking $1.50 a barrel, in cargo lots.

Lubricants—New York

French buyers were reported more keenly interested in filtered cylinder oils but actual demand for these oils continues disappointing. Unfiltered oils are weak. Pennsylvania 600 s.r. cylinder oil in barrels, New York was offered more freely at 20½ cents a gallon without attracting buyers. Neutral oils are steady but quiet. The demand for paraffin oils has improved a little, but is mainly hand-to-mouth.

Lubricants—Gulf Ports

Export demand for zero cold test oil is improving. Stocks are moderate but there is less competition among the Gulf refiners and prices are steadier. Reports had it that one of the big Gulf refiners had sold 30,000 barrels of assorted lubricants for September shipment to France but confirmation was lacking.

Gas Oil—New York

Consumption of gas oil is soaring. Refiners are firm and stocks are somewhat reduced. With the colder weather approaching there is less disposition to offer it and 36-40 was firmly held at 6¾ cents a gallon, refinery, while 28-34 was quoted at 6 cents a gallon at the refinery.

Gas Oil—Gulf Ports

There were inquiries in the market for two bulk cargoes of gas oil for September shipment to the Continent and one of the leading refiners expects to book this business shortly.

Complete Export Markets

New York Export Market

GASOLINE	Aug. 23	Aug. 16
U. S. Motor Tank cars Ref.	12½	12½–12¾
U. S. Motor cases	28.90	–28.90
California grade U. S. Motor F. O. B. N. Y. Bulk	12½	12½–12¾
KEROSENE		
43-45-150 W.W.Tank cars Ref.	10½	–10
43-45-150 W.W.Cases	21.15	–20.90
42-44-110 S.W.Cases	19.65	–19.65
GAS OIL		
36-40, Bulk Refinery	–06¾	–06¾
28-34, Bulk Refinery	–06	–06
MEXICAN BUNKER OIL		
Grade C, f. o. b. ref. Bulk	1.75	– 1.75
Diesel Oil f. o. b. ref. Bulk	2.50	– 2.50

LUBRICATING OILS

The following prices are cooperage basi f. o. b. New York, products being manufactured by inland refineries.

CYLINDER OILS (Bbls.) 1 inch Immersion Test; All Penna. Products		
Filtered D 600	29	–29
Filtered E 600	28	–28
Unfiltered 600 s. r.	20½	–20½
Unfiltered 650 s. r.	27½	–27½
600 flash s. r.	28½	–28½
630 Flash	38½	–38½

RED PARAFFIN (Bbls.) (Viscosity at 70)			
300 vis	No. 5 color	21	–21
250 vis	No. 5 color	20	–20
High Viscosity	No. 5 color	25	–25

NEUTRAL OILS (Bbls.) (Viscosity at 70)			
200 vis.at F.Pale	No. 3 color	–31	–31
180 Pale	No. 3 color	–29	–29
150 Pale	No. 3 color	–24½	–24½

BLACK OIL (Bbls.)		
25-30 cold test	13½	–13½
15 cold test	14½	–14½

MEDICINAL OILS
(Includes Price of Drums)
(Penna. Stocks)

	Aug. 23	Aug. 16
Domestic 875-885 s. g.	– .85	– .85
Domestic 865-.870 s. g.	.75– .80	.75– .80
Russian 885-.890 s. g. 325-330 vis	1.10–1.25	1.10–1.25

WAXES
(Penna. Stocks)
(F. A. S. Carload Lots)

WHITE CRUDE SCALE		
122-124 A. m. p.	–05¼	–5.15
124-126 A. m. p.	–5.20	–5.20
MATCH		
105-108 A. m. p.	–06	–06
FULLY REFINED		
120-122 A. m. p.	–05¾	–05¾
123-125 A. m. p. Philadelphia	–05¾	–05¾
125-127 A. m. p.	–5.80	–5.80
128-130 A. m. p.	–06	–06
130-132 A. m. p.	–06¼	–06¼
133-135 A. m. p.	–06½	–06½
135-137 A. m. p.	–06¾	–06¾
SEMI REFINED		
122-124 A. m. p.	.....	.....
YELLOW CRUDE SCALE		
124-126 A. m. p.	–05	–05

PETROLATUMS
(Penna. Stocks)
Per Pound

Dark Green	02¾–03	02¾–03
Veterinary	03¼	03¼
Light Amber	03¾	03¾
Dark Amber	03½	03½
Cream	06¼	06¼
Lily White	08¼	08¼
Snow White	10¾–11	10¾–11

Gulf Export Market

GASOLINE
F. O. B. Seaboard
(Shipments of 20,000 Bbls. and over)

	Aug. 23	Aug. 16
U. S. Motor, Bulk	12 –12¼	11⅞–.12
60-62 400 e. p. Bulk	12½	–.12½
61-63-390 e. p. Bulk	12¾	–.12¾
64-66 375 e. p. Bulk	13½	–.13½
U. S. Motor, Cases (cargo lots	2.20	2.20
64-66, Cases (cargo lots)	2.40	2.40
KEROSENE		
Water White, 43-45 bulk	10¼–10½	–10
Prime White, 41-43 bulk	09¾	–08¼
Water White, cases (cargo lots)	2.10	–2.05
Prime White, cases (cargo lots)	1.95	–1.90
DOMESTIC GAS AND BUNKER OIL		
26-28, gravity, bulk*	05¾	–05⅝
32 plus, bulk, Dark	05½	–05½
Grade C. Bunker oil	1.60	–1.60
Cargoes	1.40	–1.40

*Transparent through neck of a 4 oz. bottle.

MEXICAN CRUDE AND BUNKER OILS F. O. B. Steamer Tampico		
Heavy, Taxes to be added	1.10	–1.12
Grade C, Bunker oil Taxes paid...cargoes	1.40	–1.40
Grade C, Bunker oil F. O. B. New Orleans	1.60	–1.60

SOUTH TEXAS
(Viscosity at 100° F; cold test 0)
(Tanker, F. O. B. Houston)

*LUBRICATING OILS	Aug. 23	Aug. 16
100 Vis. No.2 Unfiltered Pale	07¼	07¼
150 Vis. No.2½ Unfiltered Pale.	09¾	09¾
200 Vis. No.3 Unfiltered Pale	10¾	10¾
300 Vis. No.3 Unfiltered Pale	13	13
500 Vis. No.3½ Unfiltered Pale,	14¼	14¼
200 Vis. No.5½ Red Oil	10¼	10¼
300 Vis. No.5½ Red Oil	10¼	10¼
500 Vis. No.6 Red Oil	11	11
800 Vis. No.6 Red Oil	16	16

*These prices are entirely nominal owing to wide fluctuations.

Pacific Export Market

(Cargo lots quotations at seaboard, Los Angeles)

	Aug. 23	Aug. 16
Gasoline, U. S. Motor— 54°-56°	10 –10¾	10 –10½
Gasoline, U. S. Motor— blends and special cuts	10½–11	10½–11
Gas Oil, 24°—30°B. per bbl	$1.15	$1.15
Diesel Oil, 27°B—plus per bbl	$1.15	$1.15
Bunker Oil, 14°—18°B. per bbl	$1.00	$1.00
Fuel Oil, 14°—18°B. per bbl	$1.00	$1.00
Kerosene, W. W. 38°—40° B per gal., 125-150 flash test	05¾–06¾	.05¾–.06¾
Cased Goods		
Gasoline, U. S. Motor	$2.25	$2.55
Kerosene, W. W. 38°—40° B per case, flash test 125-150	$1.50–1.55	$1.50–1.55

N. Y. Domestic Market

The following light oil, gas and fuel oil prices are F. O. B. New York refineries, being products made from Domestic (including California) and Mexican Crudes.

	Aug. 23	Aug. 16
U. S. Motor Gasoline, Tank Cars Delivered greater N.Y.	13½	13½–13¾
U. S. Motor Gasoline, Tank Cars Bayonne	12½	12½–12¾
U. S. Motor, Tank Cars, *Atlantic Seaboard Terminals	12½	12½–12¾
Kerosene, 44 150 W. W. Tank Cars de'd greater N.Y.	–11½	–11
Grade C Bunker f.o.b.N.Y.Ref.	1.75	1.75
Diesel Oil f.o.b. Refinery	2.50	2.50
Gas Oil, 36-40, Bulk Refinery	–06¾	–06¾
Gas Oil, 28-34 Bulk, Refinery	–06	–06

*New York, Philadelphia, Portsmouth, Va. Charleston, S. C.

Crude Oil Prices All Fields

PRICES IN EFFECT, *Aug. 23*

EASTERN FIELDS
Posted by Joseph Seep Purchasing Agency

Penna. Grade Oil in New York Transit Lines (Alleghany, N. Y. District)	$3.40
Bradford District Oil in National Transit Lines (Bradford District)	3.40
Penna. Grade Oil in National Transit Lines (Other Pennsylvania)	3.30
Penna. Grade Oil in Southwest Penna. Pipe Lines (Other Pennsylvania)	3.30
Penna. Grade Oil in Eureka Pipe Lines (West Virginia)	3.25
Penna. Grade Oil in Buckeye Pipe Lines (Macksburg, O. district)	3.05
Keister Grade in National Transit Lines (Butler Co.)	2.30
Gaines, Tioga Co. (Pa.)	2.85
Cabell Grade in Eureka Pipe Lines (West Virginia)	2.40
Corning Grade in Buckeye Pipe Lines (Ohio)	2.55
*Somerset Medium in Cumberland Pipe Lines (Kentucky)	2.50
*Somerset Light in Cumberland Pipe Lines (Kentucky)	2.65
Ragland Grade in Cumberland Pipe Lines (Kentucky)	1.25

*Somerset oil run prior to Oct. 1, 1923, takes price of 6 cents lower than above quotations.

Posted by Stoll Oil Refining Co.

Tinsley Bottom, Tenn. oil in Stoll Oil Refining Co. lines	$2.46
Oil City, Ky. oil in Stoll Oil Refining Co. lines	2.65

CENTRAL STATES FIELDS
Posted by Ohio Oil Co.

Wooster	$2.55	Illinois	$2.37
Lima	2.48	Plymouth	1.90
Waterloo	1.35	*Canadian Petrolia	2.88
Indiana	2.25	*Posted by Imperial Oil, Ltd.	
Princeton	2.37		

OKLAHOMA, KANSAS And NORTH TEXAS FIELDS
(Prices of Prairie Oil & Gas Co.)
(Prairie's prices apply in Oklahoma, Kansas, North and East Central Texas)
Effective May 15, 1926.

28-28.9	$1.65	41-41.9	$2.69
29-29.9	1.73	42-42.9	2.77
30-30.9	1.81	43-43.9	2.85
31-31.9	1.89	44-44.9	2.93
32-32.9	1.97	45-45.9	3.01
33-33.9	2.05	46-46.9	3.09
34-34.9	2.13	47-47.9	3.17
35-35.9	2.21	48-48.9	3.25
36-36.9	2.29	49-49.9	3.33
37-37.9	2.37	50-50.9	3.41
38-38.9	2.45	51-51.9	3.49
39-39.9	2.53	52 and above	3.57
40-40.9	2.61		

Effective May 15, The Texas Co. posted same gravity and price schedule as Prairie in Oklahoma, Kansas, North, North Central and Central Texas fields.

Humble Oil & Refining Co. Prices
(Ranger, North Texas, Mexia, Powell, Richland, Wortham, Lytton Springs, Currie, Moran and Nocona crudes all in Texas.)

Humble's grades and prices same as Prairie schedule. In fields where Humble purchases crude below 28°, 8 cents less for each full degree.

Mirando, Tex	$1.25

Magnolia Petroleum Co. Prices In Oklahoma, Kansas and North and East Central Texas

Same grades and prices as posted by Prairie, excepting that Magnolia is paying $1.30 for all oil below 28 gravity.

Corsicana heavy	$1.25

PANHANDLE, TEXAS
Prices of Kay County Gas Co. and Magnolia Petroleum Co.

28-28.9	$1.35	34-34.9	$1.65
29-29.9	1.40	35-35.9	1.70
30-30.9	1.45	36-36.9	1.75
31-31.9	1.50	37-37.9	1.80
32-32.9	1.55	38-38.9	1.85
33-33.9	1.60	39 and above	1.90

Humble Oil & Refining Co.

Same grades and prices as Kay County Gas Co. and Magnolia Petroleum Co., excepting these five grades of light oil posted on June 21:

39-39.9	$1.90	42-42.9	$2.05
40-40.9	1.95	43-43.9	2.10
41-41.9	2.00	44 and above	2.15

NORTH LOUISIANA—ARKANSAS FIELDS
***Prices of the Standard Oil Co. of Louisiana**

Caddo, below 26	$1.40
" 26-28.9	1.55
" 29-31.9	1.70
" 32-34.9	2.25
" 35-37.9	2.35
" 38 and above	2.45
Homer, below 31	1.85
" 31-32.9	2.00
" 33-34.9	2.10
" 35 and above	2.20
Haynesville, below 33	2.00
" 33 and above	2.10
El Dorado, including Lisbon, below 33	2.00
" 33-34.9	2.10
" 35-36.9	2.20
" 37 and above	2.30
Bull Bayou, 32-34.9	1.95
" 35-37.9	2.10
" 38 and above	2.25
Smackover, below 24	1.10
" 24-24.9	1.35
" 25-25.9	1.40
" 26-26.9	1.45
" 27 and above	1.50
De Soto	2.30
Crichton	2.10
Bellevue	1.50
Cotton Valley	1.20
**Urania, La	1.25

*Gulf, Louisiana Oil Refining and The Texas Co. same prices as Standard.

**Posted by Louisiana Oil Refining Corp.

Gulf is paying 95c for Calion (East El Dorado Crude.)

STEPHENS, ARKANSAS
Posted by Louisiana Oil Refining Corp., and Atlantic Oil Producing Co.

26 and above	$1.65	Below 26	$1.45

GULF COASTAL FIELDS
Posted by Humble Oil & Refining Co.

Grades A	$1.60	29-29.9	$1.75
Grades B:		30-30.9	1.80
Below 25	1.50	31-31.9	1.85
25-25.9	1.55	32-32.9	1.90
26-26.9	1.60	33-33.9	1.95
27-27.9	1.65	34-34.9	2.00
28-28.9	1.70	35 and above	2.05

Humble is paying the above prices in Goose Creek, Hull, Liberty, West Columbia, Orange, Boling and Pierce Junction fields.

Gulf Production Co. for Spindletop pays 35c a bbl less than the Humble's foregoing schedule.

Prices of The Texas Co.

Grades A	$1.60	*Grades B	$1.60
‡Grades B (light crude):			
35-35.9	$2.05	38-38.9	$2.20
36-36.9	2.10	39-39.9	2.25
37-37.9	2.15	40 and above	2.30

*Grades B include all heavy crudes which do not meet tests for Grades A or for Gulf Coast light crude.

‡The Texas Co.'s gravity and price schedule on oil below 35° is same as Humble's postings on Grades B.

ROCKY MOUNTAIN FIELDS
Prices of Ohio Oil Co. and Midwest Refining Co.

‡Salt Creek 29-29.9	$1.73
" " 30-30.9	1.81
" " 31-31.9	1.89
" " 32-32.9	1.97
" " 33-33.9	2.05
" " 34-34.9	2.13
" " 35-35.9	2.21
" " 36-36.9	2.29
" " 37 and above	2.37
Elk Basin	2.40
Grass Creek light	2.40
Big Muddy	2.25
Lance Creek	2.40
Rock Creek	2.25
‡Osage	2.40
‡Cat Creek, Mont	2.40
Sunburst, Mont	1.05
‡Hogback, N. Mex	2.45
Artesia, N. Mex	2.20

‡Posted by Midwest Refining Co. Midwest also buys Grass Creek light, and Elk Basin.

The Texas Co. buys Salt Creek and Big Muddy crude.

CALIFORNIA
Standard Oil Co. of California

Santa Maria and Ventura Posted by *Union Oil Co.

Gravity	Signal Hill Huntington Beach	Ingle-wood Torrance	Newhall, McKittrick, Whittier La Habra	Olinda-Brea Kern River	Canon, Richfield	Athens-Rosecrans Dominguez	Monte-bello	Coyote Hills	Santa Fe Springs	Midway-Sunset Elk Hills	Lost Hills	Coalinga	Wheeler Ridge	Santa Maria	Ventura
14-14.9	$ .85	$ .85	$ .85	$ .75	$ .85	.....	$ .85	$ .85	.....	$ .75	$ .75	$ .75	$ .75	$ .85	$ .85
15-15.9	.87	.87	.85	.75	.87	.....	.85	.85	.....	.75	.75	.75	.75	.85	.85
16-16.9	.90	.90	.85	.75	.90	.....	.85	.85	.....	.75	.75	.75	.75	.85	.85
17-17.9	.94	.94	.85	.75	.94	.....	.85	.85	.....	.75	.75	.75	.75	.85	.85
18-18.9	.98	.98	.86	.75	.98	.....	.86	.86	.....	.75	.75	.75	.75	.85	.85
19-19.9	1.04	1.04	.87	.75	1.04	.....	.87	.87	.....	.75	.75	.75	.75	.85	.85
20-20.9	1.10	1.10	.89	.....	1.10	.....	.89	.90	.....	.82	.82	.79	.78	.90	.90
21-21.9	1.16	1.16	.91	.....	1.16	.....	.91	.98	.....	.90	.90	.86	.81	.97	.97
22-22.9	1.22	1.22	.94	.....	1.22	.....	.94	1.06	.....	1.00	1.00	.93	.85	1.04	1.04
23-23.9	1.28	1.28	.....	.....	1.28	.....	.97	1.14	.....	1.11	1.11	1.00	.89	1.11	1.11
24-24.9	1.34	1.34	.....	.....	1.34	$1.34	1.01	1.22	$1.02	1.22	1.22	1.07	.93	1.18	1.18
25-25.9	1.40	1.40	.....	.....	1.40	1.40	1.05	1.30	1.08	1.33	1.33	1.14	.97	1.25	1.25
26-26.9	1.46	1.46	.....	.....	1.46	1.46	1.09	1.38	1.16	1.44	1.44	1.21	1.01	1.32	1.32
27-27.9	1.52	1.52	.....	.....	1.52	1.52	1.13	1.46	1.24	1.55	1.55	1.28	1.05	1.39	1.39
28-28.9	1.58	1.58	.....	.....	1.58	1.58	1.17	1.54	1.32	1.66	1.66	1.35	.....	1.46	1.46
29-29.9	1.64	.....	.....	.....	1.64	1.64	1.21	1.62	1.40	1.77	1.77	1.42	.....	1.53	1.53
30-30.9	1.70	.....	.....	.....	1.70	1.70	1.25	1.70	1.48	1.88	1.88	1.49	.....	1.60	1.60
31-31.9	1.76	.....	.....	.....	.....	1.76	.....	.....	1.60	1.99	1.99	1.56	.....	.....	1.67
32-32.9	1.84	.....	.....	.....	.....	1.84	.....	.....	1.72	2.10	2.10	1.63	.....	.....	1.73
33-33.9	.....	.....	.....	.....	.....	1.92	.....	.....	1.84	2.21	2.21	1.70	.....	.....	1.79
34-34.9	.....	.....	.....	.....	.....	2.00	.....	.....	1.96	.....	2.32	1.77	.....	.....	1.85
35-35.9	.....	.....	.....	.....	.....	2.08	.....	.....	2.08	.....	.....	1.84	.....	.....	1.92
36-36.9	.....	.....	.....	.....	.....	2.16	.....	.....	2.16	.....	.....	.....	.....	.....	.....
37-37.9	.....	.....	.....	.....	.....	2.24	.....	.....	2.24	.....	.....	.....	.....	.....	.....
38-38.9	.....	.....	.....	.....	.....	2.34	.....	.....	2.34	.....	.....	.....	.....	.....	.....
39-39.9	.....	.....	.....	.....	.....	2.44	.....	.....	2.44	.....	.....	.....	.....	.....	.....
40-40.9	.....	.....	.....	.....	.....	2.54	.....	.....	.....	.....	.....	.....	.....	.....	.....
41-41.9	.....	.....	.....	.....	.....	2.64	.....	.....	.....	.....	.....	.....	.....	.....	.....
42-42.9	.....	.....	.....	.....	.....	2.74	.....	.....	.....	.....	.....	.....	.....	.....	.....

*Union Oil Co. also purchases Long Beach crude and is maintaining the same gravity and price schedule in that field as the Standard maintains in Signal Hill and Huntington Beach fields. The Union also buys and pays the same prices as the Standard in the Rosecrans-Dominguez fields, on gravities ranging from 14 degrees to and including 24.9 degrees and in Santa Fe Springs, on gravities ranging from 20 to and including 23.9 degrees.

REFINERS' and COMPOUNDERS' SUPPLIES

Following are the average market prices for the week on materials used by refiners and compounders f. o. b. shipping point as effective this date.

Refiners' Supplies

	Aug. 23	Aug. 16
Soda Ash light 58% bags.cwt.	-$1.38	-$1.38
Silicate of Soda 60 deg. drums .....cwt.	- 1.65	- 1 65
Sal Soda wks.....	.90- 1.10	.90- 1.10
Caustic Soda 70% solid..cwt.	- 3.10	- 3.10
Chloride of Lime.....cwt. works.....	- 2.00	- 2.00
Sulphuric Acid 60 deg. tank cars f. o. b. shipping point.....per ton	10.50-11.00	10.50-11.00
Liquid Chlorine tank cars works.....lb.	- .04	- .04

Compounders' Supplies (Open Market)

Vegetable Oils—		
Linseed carloads spot.....lb.	12.2	12.2
August.....	12.2	12.2
Tanks, spot.....	10.8	10.8
Boiled carloads spot.....lb.	10.9	10.9
*Soya Bean spot, Bbls....lb.	14	14
Castor Oil—		
No. 1 Carlots, Bbls.....	-.12½	-.12½
No. 3 Carlots, Bbls.....	-.12	-.12
Animal Oils—		
English Degras.....lb.	.05½	-.05½
Domestic Degras, bbls., carloads.....lb.	-.04¾	-.04¾
*Horse.....lb.	-.09	-.09
Oleic Acid—		
Dist. Bbls.....lb.	.09¾-.10¼	.09¾-.10¼
Saponified Bbls.....lb.	.11 -.11½	.11 -.11½
Lard Oils—		
Prime		
Winter Strained. to 1½ffa.40/45c.t.lb.	.17	.18
Extra		
Winter Strained. 2 to 4½ffa.40/45c.t.lb.	.12¾	.13¾
Extra .... 4 to 5 ffa.40/45c.t.lb.	.12½	.13
Extra No.1 7 to 10 ffa.40/50c.t.lb.	.11¾	.12
No. 1..... 15 to 18 ffa.40/45c.t.lb.	.11½	.11½
No. 2..... 22 to 28 ffa.40/45c.t.lb.	.11¼	.11¼
Prime Edible Tallow under 1¾ffa 40/45c.t.N.Y.....lb.	-09¾	-10¾
Tallow acidless.....lb.	-.11¾	-.11¾
Lard Stearine.....lb.	nominal	nominal
Oleo Stearine.....lb.	-.11½	-.12¼
Neatsfoot Oil—		
Pure.....bbls.-lb.	.15¾	.15¾
Extra.....do lb.	.11¾	.12
No. 1.....bbls.-bl.	.11¼	.11¼
Cold pressed.....lb.	.18¾	.18¾
Fish Oils—		
Menhaden Oil		
Light pressed.....gal.	-.65	-.65
White.....gal.	-.67	-.67
Yellow bleached.....gal.	-.70	-.70
*Herring tank cars coast.....gal.	-.50	-.50
Whale, extra winter bleached.....gal.	-.82	-.82
Seal.....gal.		nominal
Naval Stores—		
Turpentine, N. Y.....gal.	.96½	1.00
Turpentine†.....gal.	.90½	.92½
Rosin, B. N. Y.....bbl.	14.65	15.25
Rosin, F. N. Y.....bbl.	15.70	16.50
Rosin, B†.....bbl.	13.00	13.30
Rosin, F†.....bbl.	14.05	14.50
Rosin Oil 1st run.....gal.	.78	.78
Rosin Oil 2nd run.....gal.	.82	.82
Pine Tar—		
Kiln Burnt.....bbl.	14.50	14.50
Retort.....bbl.	18.50	18.50
†Savannah, Ga. market. *Nominal		
Alcohol—Denatured		
Formula 5		
Bbls .....gal.	-36	-36
Drums.....gal.	-29	-29

Barnsdall Officials Visit Properties

TULSA.—Officials of the Barnsdall companies, headed by Mat Brush, chairman of the board of the Barnsdall Corp., visited the refinery of the Barnsdall Refining Co. at Barnsdall, Okla., on Aug. 13, and also made a tour of inspection over the company's producing properties in the surrounding territory.

Mr. Brush was accompanied by E. B. Reeser, president of the Barnsdall Corp., Tulsa; F. E. Holsten, vice president Barnsdall Refineries, Inc., Tulsa; M. G. Eitelman, vice president Barnsdall Refining Co., Kansas City; L. M. Messner, treasurer Barnsdall Oil Co., Tulsa, and H. L. Hughes, sales manager Barnsdall Refineries, Inc., Tulsa.

Since becoming chairman of the board, Mr. Brush has been making a tour of inspection of all the Barnsdall properties. He has recently been in California and stopped over in Tulsa on his way back to New York to pay his first visit to the Oklahoma oil fields, and to Barnsdall, the home of the company's largest refinery.

Late T. W. Changes

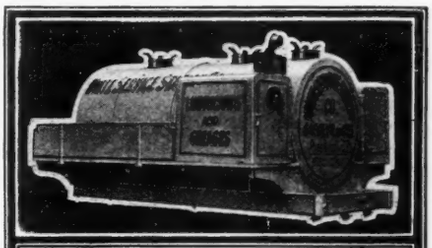
(Additional T. W. Changes on Page 113)

Standard of Nebraska—T.w. advanced 1 cent Aug. 24 throughout state.

Magnolia Petroleum—T.w. advanced 1 cent Aug. 23 in Oklahoma.

NOTE: In table on page 119 prices are those in effect Aug. 23, so advances of kerosene prices in Standards of Indiana and Nebraska territories are not shown.

SIOUX FALLS, S. D.—A successful mid-summer convention was held at Watertown, S. D. on July 27 and 28 by the South Dakota Independent Oil Jobbers Association. The next annual meeting will be held at Huron in January, 1927.



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Little Giant Truck Tanks
In any capacity for any truck

Oil Jobbers—more than a hundred of them contributed their ideas in building the Little Giant Truck Tank. You'll be amazed in learning why Little Giant is built so radically different—why the Country's foremost Engineers declare the principle of its construction, the only safe way to transport gasoline. You'll appreciate the late conveniences—the added speed Little Giant affords. *Ask for circular "N"—it tells the whole story.*

LOWER IN COST

Steinke Bros. Mfg. Co.
Peoria, Illinois

Pennsylvania Market

CLEVELAND, Aug. 23.—The general opinion among the western Pennsylvania refiners is that the market has attained a steady even tone in keeping with the season at hand. U. S. Motor gasoline has been quoted around 13¼ to 13¾ cents for some time and shipments have been normal for this territory.

Kerosene after soaring several weeks ago only to drop suddenly has again begun an upward swing. 45 water white today can not be located at less than 10¼ cents and a number of refiners are reported sold up for the balance of month.

The shortage in Bright stocks seems to have an influence over an increased demand for filtered stocks. 600 Warren E. is quoted at 20½ to 21 cents. Cylinder stocks are not moving to any great extent. Buyers say they can purchase cylinder stocks below quotations given but most refiners are holding for present prices.

Eastern and Central Kentucky Markets

ASHLAND & LEXINGTON, KY., Aug. 23.—No changes have occurred in gasoline quotations over those of the previous week. Kerosene has advanced from ¼ to 1 cent with reports that output of some refineries sold up for balance of month. Fuel oil is stronger in both districts. Demand for gas oil is normal. Today's prices are:

	Eastern	Central
58-60 Gasoline	13¾	12¾
60-62 Gasoline	14¼	13½
64-66 Gasoline	14½	14
68-70 Gasoline	14¾	..
41-43 Kerosene	10	11
24-26 Fuel oil	5¼	5¼
Gas oil	7	5¾

OIL STOCKS AND FINANCES

National Petroleum News

Shell Union Has Best Half Year Netting $1.67 on Common

Staff Special

CLEVELAND, Aug. 21

SHELL UNION OIL CORP., the holding company of the Royal Dutch-Shell group in the United States, had made its best half year report, the one covering the first six months of 1926. Its net earnings after depreciation and depletion but before federal income taxes, totaled $17,240,376. This sum, after dividends on the preferred stock, was equivalent to $1.67 a share on the 10,000,000 shares of no par common stock. Net earnings in the first half of 1925 amounted to $11,555,008, of $1.10 a share on the common stock.

Gross earnings in the first half of this year totaled $30,614,968, a gain of almost 30 per cent over gross income of the first half of 1925.

The second quarter was one of the best since the company's organization in 1922. Net earnings after depreciation and depletion but before allowance for income taxes totaled $11,744,485, equivalent after dividends on the preferred stock to $1.14 a share on the common stock. This compares with 52 cents a share on the common in the first quarter, and 68 cents a share in the second quarter of 1925.

In all of last year when the net returns were larger than in any preceding year in its existence, Shell Union netted $1.93 a share on the common stock. In 1924 the net on the common was $1.74 a share. Shell Union is paying $1.40 a year on the common, which amount was earned in the six months.

Its subsidiary, the Roxana Petroleum Corp., is building a 10,000-barrel refinery near Chicago and extending its pipe line from Wood River, Ill., to the new plant. The company has sufficient cash, it is reported, to pay for the improvement without any new financing.

Consolidated balance sheet of Shell Union and subsidiaries of last Dec. 31 showed cash amounting to $2,724,163 and short term and demand loans totaling $26,060,705. Its total current assets amounted to $64,632,358 and current liabilities $10,318,808. This left net working capital of $54,313,550. Outside of purchase money notes there was no mortgage indebtedness.

The consolidated income accounts for the first halves of this and last year's compare:

	1926	1925
Total Income	$30,614,968	$23,914,271
Dep. Deplet.	13,374,592	12,363,263
*Net Earnings	$17,240,376	$11,555,008
Prfd. Divs.	514,861	510,675
Common Divs.	7,000,000	7,000,000
Surplus	$ 9,725,515	$ 4,044,333

*Before Federal Taxes

Consolidated income accounts for the second quarters of 1926 and 1925 compare:

	1926	1925
Total Income	$19,055,776	$13,771,621
Dep. Deplet.	7,311,291	6,721,818
*Net Earnings	$11,744,485	$ 7,049,803
Prfd. Divs.	254,380	247,194
Common Divs.	3,500,000	3,500,000
Surplus	$ 7,990,105	$ 3,302,609

*Before Federal Taxes

Shell Union Oil Corp. Income Accounts

	1925	1924	1923	1922
Gross income	$ 50,293,550	*$50,984,588	$ 38,909,833	$ 21,737,583
Deprec., depletion, etc	26,735,941	26,060,516	20,626,750	12,141,232
Special reserve	2,800,000	6,000,000	1,200,000	.....
Balance	$ 20,757,609	$ 18,924,072	$ 17,083,083	$ 9,596,351
Minority interest	341,649	361,334	223,927	.....
Net income	$ 20,415,960	$ 18,562,738	$ 16,859,156	$ 9,596,351
Preferred dividends	1,031,536	1,147,890	1,200,000	750,000
Common dividends	14,000,000	10,000,000	8,500,000	4,000,000
Surplus	$ 5,726,073	$ 7,414,848	$ 7,159,156	$ 4,846,315

*Includes profit from sale of Union Oil Co. of California stock.

Shell Union Oil Corp. Balance Sheets as of Dec. 31

ASSETS

	1925	1924	1923	1922
Property	$261,260,114	$243,190,665	‡$193,794,812	‡$158,359,667
Investments	3,263,635	3,126,370	24,193,632	34,548,456
Advances to assoc. cos	2,207,358	2,819,192	2,922,645	1,311,912
Oil inventories	22,585,774	14,455,736	11,131,116	4,760,966
Materials and supplies	4,883,595	4,751,283	4,850,536	4,200,255
Accounts, notes receivable	8,378,121	6,023,344	4,907,920	3,826,625
Demand loans	26,060,705	28,500,000	.....	4,750,000
Cash	2,724,163	2,153,993	1,834,652	3,603,636
Deferred charges	1,064,442	988,352	718,202	371,000
Total	$332,427,906	$306,008,936	$224,353,521	$215,732,516

‡After depreciation and depletion.

LIABILITIES

Preferred stock	$ 17,365,400	$ 17,880,400	$ 20,000,000	$ 20,000,000
Common stock	*201,412,821	*201,412,821	‡201,412,821	‡181,912,821
Minority interest in subsidiaries	1,768,575	1,433,909	1,092,975	.....
Purchase obligations	1,501,333	1,981,805	2,809,692	3,370,924
Accounts payable, includes Federal taxes	10,181,180	7,528,958	5,336,955	4,902,903
Notes payable	.....	.....	345,571	551,517
Accrued dividend on pfd	157,628	143,628	150,000	150,000
Depletion, deprec. res	65,256,189	49,007,058	.....	.....
Special reserve	10,000,000	7,200,000	1,200,000	.....
Surplus	24,804,779	19,420,355	12,005,507	4,846,351
Total	$332,427,906	$306,008,936	$224,353,521	$215,732,516

*Represented by 10,000,000 shares. ‡Represented by 8,000,000 shares.

Cities Service Calls 7% Debentures

CLEVELAND, Aug. 21.—Cities Service Co. has called for redemption Dec. 1 $2,500,000 principal amount of its Series D 7 per cent convertible gold debentures at 102 and accrued interest.

Cities Service has announced that tank car shipments of its subsidiaries, Empire Refineries, Inc., Cities Service Refining Co., and Crew Levick Co. totaled 4,939 in June, an increase of 30 per cent over shipments of June 1925.

Net profits of the Cities Service Co. in the 12 months ended June 30 totaled $18,175,545 compared with $15,436,500 in the 12 months ended June 30, 1925.

Announce Richfield Exchange Offer

LOS ANGELES, Aug. 21.—Stockholders of the United Oil Co. which is to be re-organized into the Richfield Oil Co. of California, are to receive three shares of stock in the new corporation, chartered in Delaware, for each share of United. The present United stock is of $25 a share par value and the new Richfield stock is the same. United had 317,466 shares outstanding at the end of 1925. There are authorized 2,000,000 shares of common in the Richfield company.

Transactions In Oil Shares on New York Stock Exchange

1925 High	1925 Low	1926 High	1926 Low		Listed Capital	Par Value	Stocks	Div. Rate	Last Paid	Transactions week ended Aug. 21 Sales	First	High	Low	Last	Ch'ge
.....	.....	32⅞	24¼	(sh)	713,000	N.P.	Amerada Corp.	40cQ	July 30, 26	10,500	31	31½	30½	31	— ¼
79¾	48	74	50	(sh)	200,000	N.P.	American Republics	.....	.....	400	57¼	60⅜	57¼	60⅝	—4
47¾	32	59½	44¾	$	56,000,000	$25	Associated Oil	50cQ	July 24, 26	248	50	50	50	50	0
117½	95½	128⅜	97		50,000,000	100	Atlantic Refining	.....	June 16, 24	9,700	114	114¼	109	113⅛	—1
117¾	113½	120	115¾		20,000,000	100	do pfd	$1¾Q	Aug. 2, 26	.....	.....	.....	.....	.....	.....
33¼	18¾	33½	23¾		25,000,000	25	Barnsdall Corp. A	50cQ	July 1, 26	4,600	25⅞	26	25¼	25¼	— ⅜
80	16	29½	25		3,713,275	25	do B	50cQ	July 1, 26	100	24⅛	24⅛	23½	23½	— ½
34⅜	23¾	38¾	30⅝	$	45,040,125	$25	California Petroleum	50cQ	June 1, 26	8,600	33	33	32¼	32¼	— ½
70	42½	88½	50		25,542,500	100	General Asphalt	.....	.....	22,650	73¾	*88½	73¾	88⅜	+15⅜
109	86½	132	94⅜		7,416,000	100	do pfd	$1¾Q	June 1, 26	10,900	113¾	*132	x113¾	132	+ ¼
59⅜	42	70⅜	49½		29,429,550	25	General Petroleum	75cQ	June 1, 26	.....	.....	.....	.....	.....	.....
85	59	72	50¾		25,000,000	100	Houston Oil	.....	.....	600	59¼	59⅞	58	58	—1¼
41¾	13½	34	19⅝	(sh)	500,000	N.P.	Independent Oil & Gas	25cQ	July 19, 26	16,600	26⅜	26⅜	24½	24½	—1
14½	5½	13¾	9	$	3,204,590	$10	Indian Refining	.....	Dec. 15 20	2,400	10	10	9½	9¾	0
12⅝	6	12½	8		4,545,860	10	do ctfs	.....	.....	800	9⅝	9¾	9½	9½	— ⅛
110	77	104	90		2,296,400	100	do pfd	.....	Dec. 15, 21	200	93	93	93	93	0
1½	¼	¾	¼		1,678,760	10	Kansas & Gulf	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	24½	19¾	(sh)	4,000,000	N.P.	Lago Oil & Transport	.....	.....	32,100	22⅛	22¾	21⅜	21¾	— ⅜
23¾	13¾	19⅞	12	(sh)	1,131,216	N.P.	Louisiana Oil Refining	.....	.....	8,900	16⅛	17	15⅞	15⅞	— ⅛
35½	20¾	28⅞	20¾	(sh)	330,000	N.P.	Maracaibo Oil	.....	.....	300	22½	23⅝	22¼	22¾	—1¼
60½	32¾	63⅜	49¼	(sh)	1,895,823	N.P.	Marland Oil Co.	$1Q	June 30, 26	41,600	59¼	59¼	57⅜	58	—1⅜
$50	$25	.....	.....	$	45,942,800	$100	Mexican Petroleum	$5Q	July 20, 26	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....		12,000,000	100	do pfd	$2Q	July 20, 26	.....	.....	.....	.....	.....	.....
22½	9	13¾	6	(sh)	945,939	N.P.	Mexican Seaboard	.....	Nov. 15, 24	5,200	11¼	11⅝	10¼	10¼	— ⅜
88	25¾	37	27½	(sh)	1,357,800	N.P.	Mid-Continent Petroleum	.....	Aug. 1, 23	20,500	32¼	32⅜	31	31⅜	— ⅜
94¾	85	100⅛	90	$	6,718,000	$100	do pfd	$1¾Q	June 1, 26	100	98	98	98	98	— ⅜
3¾	¾	2½	1¾		25,415,540	10	Middle States	.....	July 1, 23	3,900	1¼	1½	1¼	1¼	0
1½	1½	1⅛	⅜		4,384,680	....	do ctfs	.....	.....	1,200	⅞	⅞	⅞	⅞	0
78½	51¾	85¾	1	(sh)	3,500,000	N.P.	Pacific Oil	$1.50S.A.	Jan. 20, 26	49,200	1½	1⅝	1½	1⅝	+ ⅛
85⅜	59½	76½	56⅜	$	48,307,400	$50	Pan American P. & T.	$1.50Q	July 20, 26	300	68	68	66	66	—2
84½	60¾	78¾	56⅞		91,025,100	50	do B	$1.50Q	July 20, 26	40,600	68¼	68¾	66½	66¾	—1½
49¾	37⅜	46	34	(sh)	400,000	N.P.	Pan American Western B	50cQ	July 30, 26	2,800	38½	38½	37½	37½	— ⅞
6¾	2¼	32	4½	(sh)	198,770	N.P.	Panhandle P. & R.	.....	.....	13,700	19½	19½	13⅜	17⅜	—1
60½	37	99¾	51	$	2,935,200	$100	do pfd	.....	July 2, 23	100	78	78	78	78	—2
47⅛	36¼	49½	40	(sh)	2,406,692	N.P.	Phillips Petroleum	75cQ	July 1, 26	49,400	48¼	48½	47¼	48	— ¼
8½	1¼	1⅞	⅝	$	29,622,925	$25	Pierce Oil Corp.	.....	.....	800	⅝	⅝	⅝	⅝	— ⅛
40	20¼	27⅛	13½		15,000,000	100	do pfd	.....	Feb. 1, 22	.....	.....	.....	.....	.....	.....
8¾	4¼	7	3	(sh)	2,500,000	N.P.	Pierce Petroleum	.....	.....	3,100	3	3⅛	† 3	3	— ⅛
32⅝	12¾	17½	11	$	11,467,850	$50	Producers & Refiners	.....	Sept. 15, 23	600	11⅜	11½	11⅜	11⅜	+ ⅛
47⅜	27	35	30¾		2,845,350	50	do pfd	.....	May 1, 25	100	31⅞	31⅞	31⅝	31⅞	—1⅞
53¾	25⅜	31	25⅜		75,959,250	25	Pure Oil Co.	37½cQ	June 1, 26	3,900	27	27	26½	26⅝	— ½
108½	103	112¾	106		13,000,000	100	do 8% pfd.	$2Q	July 1, 26	200	111¼	111¼	111	111	0
57⅜	48¾	57⅜	49¼	(sh)	691,922	13.40	Royal Dutch, N. Y. shares	$1.739	Aug. 2, 26	4,300	50⅜	51	50¼	51	+ ½
49	39½	48⅝	41	(sh)	93,345	£2	Shell Transport & T.	$1.21	July 24, 26	200	42⅛	42½	42⅛	42⅝	+ ¾
28⅜	21⅝	29½	24	(sh)	10,000,000	N.P.	Shell Union Oil	35cQ	June 30, 26	33,100	28¾	*29½	28⅜	29½	+ ⅞
106½	99½	114	103	$	20,000,000	$100	do pfd.	$1½Q	Aug. 15, 26	400	107⅝	108½	107⅝	108½	+1
28½	17¾	28¾	15⅜		7,207,620	10	Simms Petroleum	50cS.A.	July 1, 26	24,900	17¾	17⅞	†15⅜	16½	— ½
24⅞	17	24⅞	19¾	(sh)	4,489,887	N.P.	Sinclair Consolidated	.....	May 31, 24	24,900	21½	21¾	21	21¼	— ½
94⅝	78¾	99½	90	$	17,852,200	$100	do pfd.	$2Q	Aug. 15, 26	500	99¼	99¼	98¼	99	— ⅜
82½	21¾	36⅞	26⅝		23,988,590	25	Skelly Oil Co.	50cQ	June 15, 26	12,600	34½	36¾	x34⅛	36	+2⅜
.....	.....	62⅞	52⅝	(sh)	13,016,434	N.P.	S. O. California	50cQ	June 15, 26	41,700	61⅜	61½	x60	61	+ ⅞
47½	38⅜	46⅜	40¼		515,109,675	25	S. O. New Jersey	25cQ	June 15, 26	73,900	44⅜	44⅜	43⅝	43⅝	— ⅝
119	116¼	119¾	116		199,972,900	100	do pfd.	$1¾Q	June 15, 26	2,800	116⅜	117	116⅜	117	+ ⅝
43⅞	38⅜	41⅝	30⅝	(sh)	1,103,931	N.P.	Sun Oil	25cQ	June 15, 26	2,100	31½	32	31½	31½	0
6⅜	2	4¾	1	(sh)	1,121,368	N.P.	Superior Oil Corp.	.....	Dec. 20, 20	2,000	1½	1¾	1⅜	1¾	+ ¼
55	42¾	56	48	$	164,450,000	$25	The Texas Co.	75cQ	Mar. 31, 26	30,800	54½	54½	52⅞	54⅜	+ ⅜
23¾	10⅞	19½	12⅜		8,380,340	10	Texas Pacific Coal & Oil	.....	June 30, 23	13,600	15	15	14⅜	14⅝	— ⅜
36⅞	30¼	39¼	30	(sh)	2,137,570	N.P.	Tide Water Oil Co.	37½c	June 30, 26	200	30½	30½	30½	30½	+ ½
101	99	103	90	$	20,672,900	$100	do 5% pfd.	$1.25Q	Aug. 15, 26	600	91⅞	92½	91⅞	92½	+ ⅝
5⅞	3⅜	5¼	3	(sh)	3,742,029	N.P.	Transcontinental Oil	.....	.....	24,200	4⅞	5	4¾	4¾	— ⅛
48¾	33	58	37¼	$	40,480,800	$25	Union Oil of California	50cQ	Aug. 10, 26	200	53⅝	53⅞	52	52¼	— ¾
134	96¾	94⅞	80		24,423,300	100	Union Tank Car Co.	$1¾Q	June 1, 26	500	92¾	93¼	92¾	93¼	0
117⅛	113¾	118	113¾		12,000,000	100	do pfd.	$1¾Q	June 1 26	.....	.....	.....	.....	.....	.....
31¾	25½	29¼	25⅛	(sh)	490,000	N.P.	White Eagle Oil & Refining	50cQ	July 20, 26	900	26⅛	26⅛	25¾	26	0

*New High †New Low xEx-dividend Total Sales 661,298

Pittsburgh Stock Exchange

1925 High	1925 Low	1926 High	1926 Low	Par Value	Stocks	Transactions Week Ended Aug. 20 Sales	First	High	Low	Last	Ch'ge
.....	.....	6¾	6⅜	N.P.	Andes Petroleum	.....	.....	.....	.....	.....	.....
8¼	5¼	7	5¾	$10	Arkansas Nat. Gas	2,040	6⅛	6⅛	6	6	0
.....	.....	81	81	....	Columbia Gas	35	81	81	81	81	.....
.....	.....	95½	95	$100	Col. Gas & El. pfd w.i.	.....	.....	.....	.....	.....	.....
18	14½	17	12½	$10	Devonian Oil	270	16½	16¾	16½	16¾	+ ¼
112⅜	105⅜	115½	112	$100	Duquesne Lt. 7% pfd.	.....	.....	.....	.....	.....	.....
.....	.....	10	5½	N.P.	Houston Gulf Gas(w.i.)	2,015	6½	7	6¼	6¾	— ¼
.....	.....	42½	30	25	Lone Star Gas Corp.	14,091	39¾	42½	‡39⅜	39⅜	— ⅝
.....	.....	.....	.....	....	Lone Star Gas rights	450	2½	3	2½	3	+ ¾
37¼	31	43½	33¾	25	Ohio Fuel Corp.	6,482	41⅞	42	41½	41⅝	— ⅜
.....	.....	5	5	....	Ohio Oil & Gas	.....	.....	.....	.....	.....	.....
34	26	34	28	25	Oklahoma Nat. Gas	476	28½	28½	28⅜	28¼	+ ⅛
8¾	5	5⅝	3⅛	5	Pittsburgh O. & G.	1,662	3½	3½	3¼	3¼	— ¼
9⅝	6	10	8	10	Salt Creek Cons.	50	8⅞	9	8⅞	9	— ⅛
13¾	8½	11	8	10	Tidal Osage	1,765	10	*11	10	11	+1¼
.....	.....	42	40¾	N.P.	*Waverly Oil Wks.	250	40¾	*42	40¾	42	+1

Pittsburgh Curb Market

1925 High	1925 Low	1926 High	1926 Low	Par Value	Stocks	Transactions Week Ended Aug. 20 Sales	First	High	Low	Last	Ch'ge
2½	.60	3⅜	2¼	$ 5	Colombia Synd.	.....	.....	.....	.....	.....	.....
.60	.15	.15	.15	5	Duquesne Oil	5,000	.10	.10	.10	.10	0
9	5½	.....	.....	10	Forest Oil	.....	.....	.....	.....	.....	.....
92¾	64	91½	85	25	Gulf Oil Corp.	.....	.....	.....	.....	.....	.....
12½	8¾	12	7½	N.P.	Leonard Oil & Dvlp.	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	....	LoneStar rights (w.i.)	.....	.....	.....	.....	.....	.....
.....	.....	1⅝	1⅜	N.P.	Mountain & Gulf	.....	.....	.....	.....	.....	.....
2¾	1¾	.....	.....	1	Oklahoma Eastern	.....	.....	.....	.....	.....	.....
.47	.20	.35	.15	10	Omar O. & G.	.....	.....	.....	.....	.....	.....
.....	.....	2	1¾	5	Pittsburgh Oil Dev.	.....	.....	.....	.....	.....	.....
27½	25	33½	26	10	Plymouth Oil	400	31½	32	31	31	—1
7	3	5½	3	5	States Oil	.....	.....	.....	.....	.....	.....
4	1⅜	3½	2¼	$ 1	Texon Oil & Land	430	3⅛	3⅛	3	3	— ⅛
11	9	9½	8	10	TidalOsage(non-voting)	100	10	10	10	10	+ ½

*New High †New Low xEx Dividend ‡Ex-Rights

NEW YORK CURB BONDS

Week Ending Aug. 20

	High	Low	Last	Ch'ge
Cities Serv. 6s '66	93½	93	93⅜	+ ⅜
Cities Serv. 7s "D" '66	112⅞	111¾	112⅞	+1¼
Cities Serv. 8s "E" '66	120	118⅛	119	+1⅜
Galena S O 7s	93	92	92½	+1
General Pet. 6s '28	101⅜	101¼	101¼	0
Gulf Oil 5s '37	110⅝	100¼	100⅜	— ⅜
Gulf Oil 5½s '27	100⅛	100⅛	100⅛	— ⅛
Indepen. Oil 6½s '31	96	96	96	+ ¾
Pan Amer. Pet. 6s '40	102¾	102½	102⅝	— ⅛
Pennok Oil 6s '27	100	100	100	0
Pure Oil 6½s '33	104	103⅜	103¾	+ ¼
S O N Y 6½s '33	106⅜	105⅞	105⅞	— ½
Sun Oil 5½s '39	99½	99	99¼	— ⅛
Tidal Osage 7s '31	104	104	104	+ ⅛
Trans. Cont. Oil 7s '30	98½	98	98	— ½
United Oil Prod. 8s '31	40	36	40	+4½

NEW YORK BONDS

Week Ending Aug. 20

	High	Low	Last	Ch'ge
Amer. Rep. Deb. 6s	100½	99⅞	99⅞	— ⅛
Associated Oil gold 6s	103½	102½	103½	+ ½
Atlantic Refg. deb. 5s	101⅜	98	101⅜	— ½
Barnsdall Corp. 6s	97⅝	97	97⅛	— ⅛
Cal. Petrol sf 6½s	105	103¾	104¼	0
Empire Gas & Fuel 7½s	103½	102⅞	103	0
Empire Gas & Fuel 6½s	97⅝	97½	97⅝	+ ⅛
Gen. Asphalt 6s	107	105½	106¾	+ ¾
Gen. Petroleum 5s	100¾	99⅞	100	0
Humble Oil & Refg. 5½s	102¼	102	102	— ¼
Mid-Cont. Pet. 6½s	104½	104	104¼	— ¼
Pan-Amer. P. & T. 7s	106⅛	105⅜	106	+ ⅛
Pan-Amer. P. & T. 6s	106¼	105½	105¾	— ¼
Sinclair Con. Oil Col. 7s	99⅜	98¾	99⅜	+ ¾
Sinclair Con. Oil Con. 6½s	93¼	92⅞	93	+ ⅛
Sinclair Con. Oil 6s	104½	104	104¼	— ¾
Sinclair Crude Oil 6s	101⅛	100⅞	101	0
Sinclair Pipe Line sf 5s	92½	91⅝	91⅝	— ½
Skelly Oil 6½s	147½	138	145½	+7½
Superior Oil 7s	95	95	95	0
Union Oil of Cal. 6s-A	108	107¼	108	+ ¾
Union Oil of Cal. 5s-B	101⅜	101⅜	101⅜	0
Union Oil of Cal. 5s-C	98¾	98¼	98½	0

Standard Oil Stock Traded in New York Curb Market

1925 High	1925 Low	1926 High	1926 Low		Outstanding Capital	Par Value	Stocks	Div. Rate	Last Paid	Transactions week ended Aug. 20 Sales	First	High	Low	Last	Ch'ge
26⅝	17¼	19¾	16¾	£	4,000,000	£1	Anglo American	60¾cS.A.	May 27, 26	1,300	17	17⅜	17⅛	17⅜	+ ¼
4¼	1¾	2¾	1¾	(sh)	500,000	N.P.	Atlantic Lobos	.....	.....	300	1½	1½	1½	1½	0
12¾	3	5	3¼	$	10,000,000	$10	do pfd	.....	.....	100	3¾	3¾	3¾	3⅝	—1⅜
240	205	295	226		1,000,000	100	Borne Scrymser	$4S.A.	Apr. 15, 26	10	285	285	285	285	+5
72	53½	59½	46¾		10,000,000	50	Buckeye Pipe Line	$1Q	June 15, 26	350	48¼	48½	†46¾	46¾	—2
74	48½	75¾	65		3,000,000	25	Chesebrough Mfg	75cQ	June 30, 26	.....	.....	.....	.....	.....	.....
115	110	.....	.....		1,000,000	100	do pfd	$1¾Q	June 30, 26	.....	.....	.....	.....	.....	.....
31½	21¾	25⅞	19½		34,914,280	10	Continental Oil	25cQ	June 15, 26	8,900	21	21¼	20⅝	20⅝	— ⅛
17½	10	17	13½		1,500,000	25	Crescent Pipe Line	.....	Sept 15, 25	100	16	16	16	16	— ½
156	132	157	107¾		3,000,000	100	Cumberland Pipe Line	$3Q	June 15, 26	10	112½	112½	112¼	112½	—1½
96	61	63¾	47¾		5,000,000	100	Eureka Pipe Line	$1Q	Aug. 2, 26	200	50½	50½	49	49	—1
68½	25½	32½	17		16,000,000	100	Galena Signal Oil	.....	June 30, 25	625	19½	21	19¼	20⅞	+1⅜
105	88	94½	65		4,000,000	100	do new pfd	$2Q	June 30, 26	160	68	71	†65	68	+2
114	95	97½	66		2,000,000	100	do old pfd	$2Q	June 30, 26	190	71	72	70	72	+6
95	42¼	68¾	53½		72,916,650	25	Humble Oil & Refining	30cQ	July 1, 26	8,100	60⅛	62¾	59¼	59¼	—1
154½	127	144½	131		20,000,000	100	Illinois Pipe Line	$6S.A.	June 30, 26	90	134	134½	133½	134	0
39¼	27¼	38¾	31½	sh	6,491,852	N P	Imperial of Canada	25cQ	June 1, 26	8,900	36	37	36	36¼	+ ¼
84	57¼	70	58	$	5,000,000	50	Indiana Pipe Line	$1Q	Aug. 14, 26	550	60½	60½	59	59	— ½
35⅜	22⅜	35¼	28¾	sh	7,118,138	N P	International Petroleum	25cS.A.	Aug. 15, 26	23,400	34⅜	35	33½	33½	— ¾
25⅜	16½	20⅝	13¾	$	6,362,500	$12½	National Transit	25cS.A.	June 15, 26	1,700	13⅜	14⅝	13⅜	14½	+1
79	49¼	51½	33¼		5,000,000	100	New York Transit	$1¼Q	July 15, 26	.....	.....	.....	.....	.....	.....
88	67½	80½	68		4,000,000	100	Northern Pipe Line	$8S.A.	July 1, 26	50	72	72	72	72	+1½
75¼	66¾	67¾	55¾		60,000,000	25	Ohio Oil Co	50cQ	June 30, 26	2,000	60½	62	59⅜	59½	—1½
44½	19	24¾	15		10,000,000	25	Penn Mex Fuel	.....	May 21 25	200	21½	21½	21½	21½	—1¼
65½	45⅞	60¼	48		60,000,000	25	Prairie Oil & Gas	50cQ	Aug. 31, 26	5,100	51½	51¾	50¾	50¾	— ½
129¾	106	127½	122½		81,000,000	100	Prairie Pipe Line	$2Q	July 31, 26	400	125½	125¾	125½	125½	0
254	200	220	184½		4,000,000	100	Solar Refining Co	$5S.A.	June 19, 26	50	210	210	209	209	+4
103	63	74½	25		10,000,000	100	Southern Pipe Line Co	$1Q	Mar. 1, 26	.....	.....	.....	.....	.....	.....
47½	45	50	34½		20,000,000	25	South Penn Oil Co	37½cQ	June 30, 26	600	39	39½	38	38	— ½
84	50	56	49		3,500,000	100	South West Pa. Pipe Line	$1Q	July 1, 26	.....	.....	.....	.....	.....	.....
70¾	59⅜	70½	61½	$	223,756,258	$25	S. O Indiana	62½cQ	June 15, 26	16,200	64⅜	65	x63¾	63¾	— ⅝
46	30⅛	36½	21¾		8,000,000	25	S. O. Kansas	.....	June 16, 24	1,100	22	22	21⅜	21⅜	— ⅛
137	114¾	134¾	108		16,864,434	25	S. O. Kentucky	$1Q	June 30, 26	1,800	124	124⅝	123½	123½	— ⅜
270	231	273	183		4,500,000	100	S. O. Nebraska	$5S.A	Dec. 19, 25	.....	.....	.....	.....	.....	.....
.....	.....	51¾	42		4,518,000	25	do new w.i	$1.25S.A.	June 21, 26	1,700	48½	50¾	48½	49	+ ½
48¾	40¾	47¾	30⅜		858,102,000	25	S. O New York	35cQ	June 15, 26	34,000	33	33½	32⅜	32½	— ⅝
369	338	362	290½		14,000,000	100	S. O. Ohio	$2½Q	July 1, 26	30	307	310	305	305	—6
123	116	122	117		7,000,000	100	do pfd	$1¾Q	June 1, 26	30	118¾	118¾	118¾	118¾	— ¼
27	12	23	15½		1,722,931	25	Swan-Finch Co	.....	Nov. 1, 19	150	17½	17½	17½	17½	— ⅛
109½	80⅛	112	95¾		61,919,950	25	Vacuum Oil Co	50cQ	June 19, 26	4,000	102¾	104	101⅜	101⅜	— ⅜

Oil Dividends

	Amt.	Payable	Stock of Record
Chesebrough Mfg. q	75c	Sept. 30	Sept. 10
do extra	25c	Sept. 30	Sept. 10
Cumberland P. L. $q	$3	Sept. 15	Aug. 31
National Transit	25c	Sept. 15	Aug. 31
S. O. New Jersey q	25c	Sept. 15	Aug. 26
do pfd. q	$1.75	Sept. 15	Aug. 26
Tidal Osage pfd. q	1¾%	Sept. 1	Aug. 25

Cleveland Stock Market

Aug. 20

	Par	Bid	Asked	Last Sale
Canfield Oil Co	$100	.....	.....	107
do pfd	100	.....	95	95
Fred G. Clark Co	10	3½	4	3½
National Refining Co. x.	25	37½	39	38
do pfd	100	130½	135	130½
Paragon Refining Co	25	7¾	8½	8½
do pfd	100	80	.....	80

Borne Scrymser to Alter Capital

CLEVELAND, Aug. 23.—A special meeting of stockholders of the Borne Scrymser Co. will be held Aug. 18 at Elizabeth, N. J., to consider and vote on a proposal of the directors to alter the company's capital structure. It is proposed to change the present capital from 10,000 shares of $100 par value each to 40,000 shares of $40 par value each and to issue four shares of new stock for each old share. The total authorized capital would remain at $1,000,000. Cash adjustment is proposed for fractions of shares not exchangeable for full shares of new stock.

New York Curb Market

1925 High	1925 Low	1926 High	1926 Low	Par Value	Stocks	Transactions week ended Aug. 20 Sales	First	High	Low	Last	Ch'ge
11½	2⅜	14½	5	$ 5	Amer. Maracaibo	1,800	6	6	5¾	6	0
8¾	5	6¾	5¾	$10	Arkansas Nat. Gas.	500	5⅞	5⅞	5¾	5¾	— ¼
.....	.....	19¼	14⅜	N.P.	Beacon Oil	1,700	17¾	18	17½	17½	0
47½	38	.....	.....	$25	British-American	.....	.....	.....	.....	.....	.....
10¼	2¾	22⅞	9¼	25c	Carib. Syndicate	3,700	15⅛	15¼	14⅝	14⅝	— ⅜
43	35	44¼	37½	$20	Cities Service	13,300	42⅞	*44¼	42⅞	44¼	+1¼
85⅝	80½	89½	82¾	100	do pfd	1,700	88½	*89¼	88½	89¼	+ ¾
8	7¼	7⅞	7¼	10	do pfd. B	800	7⅞	* 7⅞	7¾	7¾	0
21¾	17½	22	19	10	do bankers' sh	300	21¾	*22	21¾	22	+ ½
2¾	.60	3½	2	N.P.	Colombia Syndicate	10,100	2⅜	2½	2¼	2½	+ ⅛
15	8¾	15¾	10	N.P.	Creole Syndicate	5,200	14½	14¾	14¼	14⅜	0
12¾	5	7¾	1⅜	N.P.	Crown Central	4,500	2	2⅜	2	2⅛	+ ⅛
7	2	4	1 1/16	N.P.	Derby Oil & Ref	1,600	3¾	3¾	3¼	3¼	+ ⅛
27	10½	19	13	N.P.	do pfd	300	18	18	17⅞	18	0
.....	.....	2¼	.88	.....	Euclid Oil	7,400	1⅜	1⅜	1 1/16	1⅜	0
6	1¾	7½	3½	N.P.	Gibson Oil	38,000	4¼	4½	† 3½	3⅞	— ⅛
3¾	1¾	2	.63	N.P.	Gilliland v.t.c.	.....	.....	.....	.....	.....	.....
98¼	63½	93¾	82	$25	Gulf Oil Corp.	1,900	86	86	84⅛	84⅞	— ⅛
5⅞	2¾	4	2	N.P.	Kirby Petroleum	1,500	2	2	2	2	0
13	6	12¼	5¾	N.P.	Leonard Oil & Dev.	7,700	7⅞	8¼	7⅝	7⅝	— ⅛
25⅞	18	25¾	20	N.P.	Lion Oil Refining	100	21¾	21¾	21¾	21¾	— ⅛
.....	.....	42	31½	$25	Lone Star Gas	300	42	*42	39	39	—1
4¼	1¾	3¼	2	N.P.	Marland of Mexico	100	2	2	† 2	2	— ⅛
5¾	.56	5½	3¾	$10	Mexican-Panuco	10,400	3⅞	4⅜	3¾	4	0
2	1	1¾	1⅜	1	Mountain & Gulf	200	1½	1½	† 1⅜	1⅜	— ⅛
26¼	18¾	26	23	10	Mountain Prod	2,800	24¾	24⅞	24⅜	24¾	0
6¾	3⅜	6¾	5⅝	5	New Bradford	1,000	5¾	5⅞	5⅝	5⅝	— ⅛
24¾	16¼	11¾	2	10	New England Fuel	.....	.....	.....	.....	.....	.....
19¾	6¼	17	9⅛	1	New Mex. & Ariz	1,600	12½	12⅝	12⅜	12⅜	— ⅛
12½	8¾	17	8	25	New York Oil	100	10½	10½	10½	10½	+ ⅛
37	14	36	34¼	25	Ohio Fuel Corp	.....	.....	.....	.....	.....	.....
.....	.....	9⅛	7¼	....	Pandem	6,800	8½	8¾	8⅛	8⅛	— ¼
2½	.90	2¾	.50	N.P.	Peer Oil Corp	800	59	60	59	60	+3
28¼	16	22¾	14½	$10	Pennok Oil	.....	.....	.....	.....	.....	.....
44½	16	38	14⅜	25	Red Bank Oil	700	30	30¼	29⅜	30	+1⅜
33½	19	28¾	14½	N.P.	Reiter-Foster	8,400	27¾	*28¾	25⅜	26	— ⅜
9½	3½	7½	4¾	N.P.	Ryan Consolidated	100	5⅜	5⅜	5⅜	5⅜	0
9¾	6¾	10	8	$10	Salt Creek Cons	1,200	8¾	8⅞	8¾	8⅞	0
35	24	36	28⅞	10	Salt Creek Prod	6,100	30⅞	31	30½	30⅝	— ⅛
3⅞	1	4	1⅜	5	Savoy Oil	100	2½	2½	2½	2½	— ⅛
13¾	9	12¼	7⅝	10	Tidal Osage	6,900	10¾	*12½	10¼	11½	+2
10⅞	8	12	8¼	10	do non-voting	1,000	11¼	*12	10	11½	+1⅝
.....	.....	27	21	N.P.	Tide Water Assoc.	7,800	24⅝	25	24½	24⅝	— ⅛
.....	.....	99¾	97½	100	" " " pfd.	1,300	97½	97½	97½	97½	0
4⅞	1¾	8	4¼	5	Venezuelan Pet	15,500	6½	6⅞	6⅜	6⅜	— ⅜
.....	.....	29¾	23½	N.P.	Warner-Quinlan w.i.	600	28	28⅞	28	28	0
31¼	22⅝	36½	22	N.P.	Wilcox O & G new	3,100	30⅞	31	30⅛	30⅞	— ⅛
7	3⅞	7¾	4⅜	N.P.	Woodley Petroleum	400	5⅞	6	5¾	5¾	— ¾

*New High †New Low xEx-Dividend.

Dividend Passed Because Crude Traffic Falls

NEW YORK, Aug. 21.—New York Transit Co. has passed its dividend which was expected to be paid in October, because of a fall in revenue due to the curtailment of pipe line crude shipments from the west to Atlantic seaboard refineries. President D. S. Bushnell issued this statement:

"Following previous advices to stockholders as to sharp competition presented by tank ship transportation, your directors must now inform you that a sudden and severe curtailment of the movement of crude petroleum to the Atlantic seaboard by pipe line has made necessary the omission of any dividend distribution at this time."

The New York Transit paid $1.25 a share in July, $1 a share in April, and 75 cents a share in each of the four preceding quarters. The larger dividends in July and April had been interpreted as meaning pipe line shipments to the east, which were comparatively small in 1923 and 1924 but were larger last year, were improving further this year.

In past years refineries of the Standard Oil Cos. of New York and New Jersey received a large part of their crude supplies through New York Transit lines but now these companies evidently are receiving most of their raw material by tankship. The New York company recently consolidated with the General Petroleum Corp. which merger gave it a crude supply from California. It also has acquired the outstanding minority interest in Magnolia Petroleum Co. which can ship crude to New York Standard's refineries in Brooklyn from Texas Gulf ports.

The New Jersey company is receiving a large volume of crude from South America.

Financial Notes

Standard Oil Co. of Nebraska—Stock put on quarterly dividend basis with declaration of 63 cents regular and 25 cents extra payable Sept. 20 to stock of Aug. 23 record. This is a rate of $2.50 a year on the new $25 stock. Before the stock split up last May, $10 a year was paid on the $100 stock. The new dividend is at the rate of $15 a year on the $100 stock, six $25 shares having been issued for each $100 share held. The initial dividend on the new stock, paid June 21, was $1.25 regular, semi- annual and 50 cents extra.

* * *

Amerada Corp.—100,000 more shares common stock, no par value, admitted to New York Stock Exchange, making total 813,300 shares.

* * *

Borne Sorymser Co.—Stockholders approve plan to change stock from $100 par value to $25 par value and issue four new shares for each old share.

THE OIL INDUSTRY EXCHANGE

Positions Wanted

Energetic, hardworking experienced bulk station manager and salesman, with car, desires new connection, with reliable refiner or distributor. **Prefer Western New York territory.** Box 679.

Position Wanted with reliable oil company. Twelve years purchasing, compounding, executive and general oil marketing experience. Available September 1st. Box 669.

Young Man, six years Supervisor of Sales and Service for large Mid-Western jobber, desires similar position. Experience covers jobbing, marketing, and retailing petroleum products in detail with specialized training. Capable **organizing or reorganizing entire company or division.** Location immaterial. Married, Age 26. Good reason for wanting change. Box 676 Care of National Petroleum News.

Executive, 33, at present Assistant Treasurer with a marketing concern doing an annual business of over one million dollars, desires new connection. Thoroughly experienced in all branches of the oil business but exceptionally well posted in marketing and service station accounting as well as Federal, State and other tax reports. Box 680.

Superintendent at present employed, experienced with high and low pressure, vacuum asphalt and complete refinery operations, desires new connection. Reply Box 681.

Former Army Officer, excellent record as administrator and executive, experienced in marketing oil, also installation of bulk and filling **stations, desires position with reputable oil company. Spent fourteen years in tropics and speaks Spanish. Now living in Ohio but will** go anywhere. Box 682.

EXPERIENCED WHOLESALE MAN

Will entertain proposition from refiner or large marketing company interested in developing new wholesale outlets. Open to executive position in home office or branch managership.

Offers wide experience and valuable personal contacts with leading refiners and jobbers in New England, Middle Atlantic, Southeastern and Middle Western States. Thoroughly familiar with all petroleum products—a specialist on lubricants. Might consider alliance with responsible tank car broker offering complementary experience. Best references.

Box 678

Situations Open

Refining Company wants to employ well trained petroleum chemist or chemical engineer. Must have thorough knowledge of research and experimental work. When writing, **state experience, age and education.** Correspondence will be kept strictly confidential.

Box 677

ENERGETIC AND CAPABLE SALESMAN WANTED

who can sell and close contracts with jobbers on an old established, high grade line of motor products. Territory — Southeastern States. A good opportunity for the right man. Single man preferred. State qualifications fully in reply.

Box 664.

Business Opportunities

MINERAL OILS OF ALL KINDS

Old French Firm of first-class order wish to find producers not yet represented in France, for the sale of all their products. Best references given. Large Clientele and organized sale services. Kindly write at once to

Huilerie & Raffinerie Schroeder & Company. Societe R. L. Arras (France) Capital of 1,000,000 de francs.

WAX PRESS WANTED

48″ Diameter equipped with ½″ spacing rings, blankets and plates complete. Give detailed specifications, stating length of press over all and length of ram.

Box 674, care National Petroleum News.

For Sale

BULK PLANT and SERVICE STATIONS

Located 25 miles out of Cleveland. Gallonage one million per year.

Box 673.

SULPHURIZED ANIMAL OIL CUTTING OIL BASE, HEAVY CONSISTENCY FOR SALE

4 cents per pound. Also, black recovered lard oil and neatsfoot oil mixed, tank cars and barrels.

Acme Oil Corporation, 189 N. Clark St., Chicago, Ill.

P-NUT FLUES FOR SALE

Approximately 2275 pieces. Charcoal Iron Tubes 2″ in diameter by 4′ and 8″ long. Manufactured by the Monongahela Tube Company. 1000-lb. Test Lap Weld.

Above suitable for heat exchangers. Knock Back Boxes. Aerial Condensation.

P. O. Box 1929, Tulsa, Okla. or Phone 2-7191

Miscellaneous

WHAT IT COSTS

For "Position Wanted" advertisements—5 cents per word. Minimum cost $1.00. All other classified advertising—10 cents per word. Minimum cost $3.00. Advertisements set in special type or with border—$4.00 per column inch. Copy must reach us not later than Friday preceding date of issue.

All advertisements carried on this page are payable in advance.

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